

E. T. D. L.

## STATION 85

35 Species

17° 12' S. 136° 37' W. March 6, 1929

Bottom depth 3791 m.

| Depth of tow, m.               | 0    | 50   | Depth of tow, m.              | 0    | 50   |
|--------------------------------|------|------|-------------------------------|------|------|
| Temperature, C.                | 27.9 | 27.8 | Density, $\sigma_t$           | 23.3 | 23.5 |
| Salinity, ‰                    | 36.2 | 36.2 | Phosphates, mg/m <sup>3</sup> | 40   | 40   |
| Volume of tow, cm <sup>3</sup> | 36   | 64   | Length of tow, miles          | 0.1  | 0.4  |
| Hydrogen ion pH                | 8.22 | 8.22 |                               |      |      |
| Acartia danae                  |      | c    | Megacalanus longicornis       |      | a    |
| Acrocalanus gracilis           | 1    |      | Microcalanus pygmaeus         |      | f    |
| monachus                       |      | f    | Microsetella rosea            | 1    | f    |
| Calanus minor                  |      | f    | Neocalanus gracilis           |      | f    |
| Candacia bispinosa             |      | a    | robustior                     |      | c    |
| simplex                        |      | a    | Oithona attenuata             |      | c    |
| Copilia denticulata            |      | 1    | similis                       |      | c    |
| Corycaeus crassiusculus        | r    | c    | spinirostris                  |      | c    |
| dubius                         | 2    |      | Oncaea minuta                 |      | c    |
| speciosus                      |      | c    | Paracalanus parvus            |      | f    |
| Eucalanus attenuatus           |      | f    | Phaenna spinifera             |      | f    |
| elongatus                      |      | f    | Pleuromamma gracilis          |      | 1    |
| Euchaeta marina                |      | a    | Pontellina plumata            |      | 5    |
| Euchirella curticauda          |      | 3    | Pseudocalanus minutus         |      | c    |
| Farranula carinata             | a    | a    | Sapphirina angusta            |      | 1    |
| gibbula                        | 2    |      | Scolecithrix danae            |      | a    |
| rostrata                       | a    | r    | Undinula darwini              |      | f    |
|                                |      |      | Sapphirina pyrosomata         | 1    |      |
|                                |      |      | Sta-85                        |      |      |



BETWEEN STATIONS 85 & 86

17° 48' S. 140° 49' W. March 8, 1929

Surface only

Tuamotu Is.

20 Species

| Volume of tow, cm <sup>3</sup> | 32 | Length of tow, miles  | 3 |
|--------------------------------|----|-----------------------|---|
| Acartia danae                  | c  | Farranula carinata    | C |
| Acrocalanus gracilis           | 1  | gibbula               | 4 |
| Candacia norvegica             | 5  | rostrata              | C |
| simplex                        | f  | Microsetella rosea    | 1 |
| Centropages calaninus          | f  | Oncaea minuta         | f |
| Corycaeus agilis               | r  | similis               | 2 |
| crassiusculus                  | C  | venusta               | C |
| longistylis                    | 2  | Paracalanus parvus    | C |
| robustus                       | 2  | Pseudocalanus minutus | C |
| speciosus                      | f  | Sapphirina auronitens | 1 |

Sta. 85 & 86



STATION 86  
17°36'S. 141°55'W. March 9, 1929  
Bottom depth 2132 m.

Tuamotu Is.

35 Species

|                                |      |      |                               |      |      |
|--------------------------------|------|------|-------------------------------|------|------|
| Depth of tow, m.               | 0    | 50   | Depth of tow, m.              | 0    | 50   |
| Temperature, C.                | 28.2 | 27.4 | Density, $\sigma_t$           | 23.2 | 23.7 |
| Salinity, ‰                    | 36.1 | 36.2 | Phosphates, mg/m <sup>3</sup> | 20   | 17   |
| Volume of tow, cm <sup>3</sup> | 32   | 34   | Length of tow, miles          | 0.1  | 0.2  |
| Hydrogen ion pH                | 8.29 | 8.29 |                               |      |      |
| Acartia danae                  |      | c    | Lubbockia squillimana         |      | 1    |
| Acrocalanus gracilis           |      | f    | Microsetella rosea            |      | f    |
| monachus                       |      | f    | Neocalanus gracilis           |      | f    |
| Calocalanus styliremis         |      | 2    | Oithona plumifera             |      | f    |
| Candacia simplex               |      | c    | similis                       |      | c    |
| Centropages calaninus          |      | f    | spinirostris                  |      | f    |
| Clausocalanus arcuicornis      | 1    |      | Oncaea media                  |      | c    |
| Copilia denticulata            |      | 4    | minuta                        |      | c    |
| quadrata                       |      | 4    | venusta                       |      | a    |
| Corycaeus crassiusculus        |      | c    | Paracalanus parvus            | 2    | c    |
| longistylis                    |      | f    | Phaenna spinifera             |      | 4    |
| speciosus                      | 1    | f    | Pleuromamma gracilis          |      | c    |
| typicus                        |      | r    | Pseudocalanus minutus         |      | c    |
| Euchaeta acuta                 |      | f    | Sapphirina auronitens         |      | 2    |
| marina                         |      | a    | metallina                     |      | 1    |
| Farranula carinata             | c    | c    | pyrosomatis                   |      | 1    |
| concinna                       |      | 1    | Scolecithrix danae            |      | f    |
| rostrata                       | c    | c    |                               |      |      |
|                                |      |      | Sta-86                        |      |      |



Tuamotu Is.

# STATION 87

33 Species

18° 05' S. 145° 33' W. March 11, 1929

Bottom depth 4315m.

| Depth of tow, m.               | 0    | 50   | Depth of tow, m.              | 0    | 50   |
|--------------------------------|------|------|-------------------------------|------|------|
| Temperature, C                 | 27.8 | 26.5 | Density, $\sigma_t$           | 23.2 | 23.9 |
| Salinity, ‰                    | 36.0 | 36.0 | Phosphates, mg/m <sup>3</sup> | 17   | 20   |
| Volume of tow, cm <sup>3</sup> | 34   | 64   | Length of tow, miles          | 0.4  | 0.9  |
| Hydrogen ion pH                | 8.28 | 8.26 |                               |      |      |
| Acartia danae                  |      | C    | Microsetella rosea            |      | 2    |
| Acrocalanus gracilis           |      | C    | Miracia efferata              |      | 2    |
| Calanus minor                  |      | C    | Neocalanus gracilis           |      | f    |
| Candacia simplex               | 1    |      | robustior                     |      | 2    |
| Centropages calaninus          |      | 1    | Oithona attenuata             |      | f    |
| Clausocalanus arcuicornis      |      | C    | similis                       |      | f    |
| Corycaeus crassiusculus        | r    | f    | spinirostris                  |      | C    |
| longistylis                    | 2    | f    | Oncaea minuta                 |      | f    |
| speciosus                      | 1    | f    | venusta                       |      | C    |
| typicus                        |      | r    | Paracalanus parvus            | f    | C    |
| Euchaeta acuta                 |      | f    | pygmaeus                      |      | f    |
| marina                         |      | C    | Pleuromamma gracilis          |      | C    |
| Farranula carinata             | a    | C    | Pseudocalanus minutus         | C    | a    |
| gibbula                        | f    |      | Scolecithrix danae            |      | C    |
| rostrata                       |      | f    | Spinocalanus caudatus         |      | f    |
| Mecynocera clausi              |      | 1    | magnus                        |      | f    |
| Microcalanus pygmaeus          |      | C    |                               |      |      |
|                                |      |      | 5/12. 87                      |      |      |



STATION 88

53 Species

16° 42' S. 150° 41' W. March 21, 1929

Bottom depth 3697m

|                                |      |      |                               |      |      |
|--------------------------------|------|------|-------------------------------|------|------|
| Depth of tow, m.               | 0    | 50   | Depth of tow, m.              | 0    | 50   |
| Temperature, C.                | 28.4 | 28.4 | Density, $\sigma_t$           | 22.9 | 23.2 |
| Salinity, ‰                    | 35.8 | 35.8 | Phosphates, mg/m <sup>3</sup> | 16   | 13   |
| Volume of tow, cm <sup>3</sup> | 34   | 96   | Length of tow, miles          | 0.4  | 0.3  |
| Hydrogen ion pH                | 8.23 | 8.25 |                               |      |      |
| Acartia danae                  |      | c    | Farranula carinata            | a    | f    |
| Acrocalanus gracilis           | f    | f    | gibbula                       | r    |      |
| monachus                       |      | f    | rostrata                      | c    |      |
| Calanus minor                  |      | f    | Lubbockia squillimana         |      | 4    |
| Calocalanus pavo               |      | 2    | Mecynocera clausi             |      | 1    |
| Candacia bispinosa             |      | f    | Microcalanus pusillus         |      | f    |
| norvegica                      |      | f    | pygmaeus                      |      | c    |
| simplex                        | 1    | c    | Microsetella rosea            |      | f    |
| truncata                       |      | 4    | Oithona attenuata             |      | f    |
| Centropages calaninus          |      | c    | plumifera                     |      | f    |
| Clausocalanus arcuicornis      |      | c    | similis                       | 2    | f    |
| Clytemnestra rostrata          |      | 1    | Oncaea curta                  | 3    |      |
| Copilia denticulata            |      | f    | minuta                        | r    | f    |
| quadrata                       |      | 2    | similis                       |      | 4    |
| Corycaeus agilis               | r    |      | venusta                       |      | c    |
| crassiusculus                  | r    | a    | Paracalanus parvus            | c    | a    |
| flaccus                        | 1    |      | Pontellina plumata            |      | 1    |
| longistylis                    |      | f    | Pseudocalanus minutus         |      | c    |
| pumilus                        |      | r    | Sapphirina avronitens         | 2    | 1    |
| speciosus                      |      | c    | nigromaculata                 |      | 2    |
| typicus                        |      | 2    | opalina                       |      | 3    |
| Evchaeta acuta                 |      | 3    | Scolecithrix danae            |      | a    |
| marina                         |      | c    | Undinula darwini              |      | 1    |
| Acrocalanus longicornis        | 1    |      | vulgaris                      |      | 4    |
| Calocalanus styliremis         |      | 2    | Oncaea mediterranea           |      | 2    |
| Scolecithricella propinqua     | 1    |      | Pachos punctatum              | 3    |      |
|                                |      |      | Undeuchaeta plumosa           | 1    |      |



STATION 89

49 Species

17° 09' S. 152° 41' W. March 23, 1929

Bottom depth 4286m.

| Depth of tow, m.                 | 0    | 50   | Depth of tow, m.              | 0    | 50   |
|----------------------------------|------|------|-------------------------------|------|------|
| Temperature C.                   | 28.3 | 28.3 | Density, $\sigma_t$ P.        | 22.7 | 23.1 |
| Salinity, ‰                      | 35.6 | 35.8 | Phosphates, mg/m <sup>3</sup> | 21   | 12   |
| Volume of tow, cm <sup>3</sup>   | 34   | 64   | Length of tow, miles          | 0.3  | 0.5  |
| Hydrogen ion pH                  | 8.25 | 8.27 |                               |      |      |
| <i>Acartia danae</i>             |      | f    | <i>Farranula rostrata</i>     | f    | f    |
| <i>Acrocalanus gracilis</i>      | a    | f    | <i>Lubbockia squillimana</i>  |      | f    |
| <i>monachus</i>                  |      | f    | <i>Macrosetella gracilis</i>  | f    | 1    |
| <i>Calanus minor</i>             |      | f    | <i>Microcalanus pusillus</i>  |      | f    |
| <i>Calocalanus pavo</i>          |      | 1    | <i>Microsetella rosea</i>     | 1    | c    |
| <i>Candacia bispinosa</i>        |      | 2    | <i>Neocalanus gracilis</i>    |      | 4    |
| <i>simplex</i>                   | 2    | a    | <i>robustior</i>              |      | 2    |
| <i>truncata</i>                  |      | f    | <i>Oithona attenuata</i>      |      | f    |
| <i>Centropages calaninus</i>     | 2    | f    | <i>plumifera</i>              |      | c    |
| <i>Clausocalanus arcuicornis</i> | f    | f    | <i>similis</i>                | a    | c    |
| <i>Clytemnestra scutellata</i>   |      | 4    | <i>Oithonina nana</i>         | c    |      |
| <i>Copilia denticulata</i>       |      | c    | <i>Oncaea curta</i>           | r    |      |
| <i>quadrata</i>                  |      | 2    | <i>media</i>                  | f    | f    |
| <i>vitrea</i>                    |      | 1    | <i>minuta</i>                 | c    | f    |
| <i>Corycaeus crassiusculus</i>   | c    | 2    | <i>venusta</i>                | f    | c    |
| <i>dubius</i>                    | r    |      | <i>Paracalanus parvus</i>     |      | c    |
| <i>typicus</i>                   | 2    |      | <i>Pontellina plumata</i>     |      | 2    |
| <i>Euchaeta acuta</i>            |      | f    | <i>Sapphirina auronitens</i>  | 1    |      |
| <i>marina</i>                    | 2    | a    | <i>opalina</i>                |      | 2    |
| <i>Euchirella curticauda</i>     |      | 1    | <i>Scolecithrix danae</i>     | 1    | a    |
| <i>Farranula carinata</i>        | a    | f    | <i>Spinocalanus magnus</i>    |      | 1    |
| <i>gibbula</i>                   | r    |      | <i>Undinula vulgaris</i>      |      | f    |
| <i>Euchirella brevis</i>         |      | 1    | <i>Pachosina piona</i> n.sp.  | 2    |      |
| <i>Labidocera detruncata</i>     | 2    |      | <i>Spinocalanus abyssalis</i> |      | 3    |
| <i>Oithona spinirostris</i>      |      | 3    |                               |      |      |

Sta. 89-



BETWEEN STATIONS 89 & 90

17°04'S. 152°58'W. March 23, 1929

N.W. Guamotu Is.

46 Species

Surface only

| Volume of tow cm <sup>3</sup> | 48 | Length of tow, miles   | 0.1 |
|-------------------------------|----|------------------------|-----|
| Time of tow 7.50-10 P.M.      |    |                        |     |
| Acartia danae                 | C  | Farranula gibbula      | f   |
| Acrocalanus gracilis          | C  | gracilis               | 10  |
| monachus                      | f  | rostrata               | C   |
| Calanus minor                 | f  | Labidocera detruncata  | f   |
| Calocalanus pavo              | 1  | Lucicutia clausi       | 1   |
| Candacia aethiopica           | 3  | Macrosetella gracilis  | a   |
| bispinosa                     | f  | oculata                | 2   |
| norvegica                     | f  | Microcalanus pygmaeus  | C   |
| simplex                       | C  | Microsetella norvegica | 1   |
| Centropages calaninus         | C  | rosea                  | f   |
| Clytemnestra rostrata         | 5  | Neocalanus robustior   | f   |
| Corycaeus catus               | r  | Oncaea curta           | 2   |
| crassiusculus                 | a  | media                  | f   |
| furcifer                      | r  | minuta                 | a   |
| longistylis                   | 3  | venusta                | a   |
| pacificus                     | 4  | Paracalanus parvus     | C   |
| pumilus                       | 1  | Pontella securifer     | 1   |
| speciosus                     | f  | Pontellina plumata     | f   |
| Euchaeta acuta                | 2  | Sapphirina auronitens  | f   |
| marina                        | C  | Spinocalanus magnus    | 2   |
| Euchirella brevis             | 1  | Calocalanus plumulosus | 1   |
| Farranula carinata            | a  | Undinula vulgaris      | f   |
| Acartia negligens             | 3  | Canthocalanus pauper   | 2   |

Sta. 89 & 90



Bottom depth 4630 m.

| Depth of tow, m.                 | 0    | 50   | Depth of tow, m.                | 0    | 50   |
|----------------------------------|------|------|---------------------------------|------|------|
| Temperature, C.                  | 28.5 | 28.6 | Density, $\sigma_t$ P.          | 22.6 | 22.9 |
| Salinity, ‰                      | 35.4 | 35.6 | Phosphates, mg/m <sup>3</sup>   | 21   | 21   |
| Volume of tow, cm <sup>3</sup>   | 34   | 80   | Length of tow, miles            | 0.6  | 0.9  |
| Hydrogen ion                     | 8.27 | 8.26 |                                 |      |      |
| <i>Acartia danae</i>             |      | c    | <i>Farranula gibbula</i>        | r    | 2    |
| <i>Acrocalanus gracilis</i>      | f    | c    | <i>rostrata</i>                 | f    | c    |
| <i>monachus</i>                  | f    | a    | <i>Labidocera detruncata</i>    | f    |      |
| <i>Calanus minor</i>             |      | f    | <i>Macrosetella gracilis</i>    |      | 1    |
| <i>propinquus</i>                |      | 1    | <i>Mecynocera clausi</i>        | 2    |      |
| <i>Candacia bispinosa</i>        |      | f    | <i>Microcalanus pygmaeus</i>    |      | a    |
| <i>simplex</i>                   |      | f    | <i>Microsetella norvegica</i>   |      | 2    |
| <i>Centropages calaninus</i>     |      | f    | <i>rosea</i>                    |      | f    |
| <i>Clausocalanus arcuicornis</i> | 1    | f    | <i>Oithona attenuata</i>        |      | f    |
| <i>Copilia denticulata</i>       | f    | c    | <i>plumifera</i>                |      | f    |
| <i>quadrata</i>                  | 1    |      | <i>similis</i>                  | f    |      |
| <i>vitrea</i>                    |      | 1    | <i>spinirostris</i>             |      | 2    |
| <i>Corycaeus anglicus</i>        | 1    |      | <i>Oncaea media</i>             |      | f    |
| <i>catus</i>                     | 2    |      | <i>minuta</i>                   | f    | c    |
| <i>crassiusculus</i>             | c    | a    | <i>similis</i>                  | r    |      |
| <i>longistylis</i>               | f    | c    | <i>venusta</i>                  | f    | f    |
| <i>speciosus</i>                 | c    | c    | <i>Paracalanus parvus</i>       | f    | c    |
| <i>typicus</i>                   | 3    |      | <i>Pontella tenuiremis</i>      | f    |      |
| <i>Euchaeta acuta</i>            |      | f    | <i>Pontellina plumata</i>       | 1    |      |
| <i>marina</i>                    | c    | a    | <i>Pseudocalanus minutus</i>    |      | c    |
| <i>Farranula carinata</i>        | c    | a    | <i>Sapphirina nigromaculata</i> |      | 1    |
| <i>curta</i>                     | r    |      | <i>Scolecithrix danae</i>       |      | a    |
|                                  |      |      | <i>Spinocalanus magnus</i>      |      | 1    |

Sta. 90



N. Cook Islands

# STATION 91

50 Species

15° 44' S. 160° 25' W. March 27, 1929

Bottom depth 4937m.

| Depth of tow, m.               | 0    | 50   | Depth of tow, m.              | 0    | 50   |
|--------------------------------|------|------|-------------------------------|------|------|
| Temperature, C.                | 28.7 | 28.5 | Density, $\sigma_t$           | 22.2 | 22.6 |
| Salinity, ‰                    | 35.1 | 35.2 | Phosphates, mg/m <sup>3</sup> | 21   | 24   |
| Volume of tow, cm <sup>3</sup> | 32   | 32   | Length of tow, miles          | 0.6  | 0.8  |
| Hydrogen ion pH                | 8.30 | 8.30 |                               |      |      |
| Acartia danae                  | f    | f    | Farranula gibbula             | f    |      |
| Acrocalanus gracilis           | c    | c    | gracilis                      |      | r    |
| longicornis                    |      | 2    | rostrata                      | f    | f    |
| monachus                       | a    | f    | Labidocera detruncata         | f    |      |
| Calanus minor                  |      | f    | Microcalanus pusillus         |      | 1    |
| Calocalanus pavo               |      | 1    | pygmaeus                      |      | f    |
| Candacia bispinosa             |      | 1    | Microsetella rosea            |      | f    |
| Clausocalanus arcuicornis      |      | 2    | Neocalanus robustior          |      | 1    |
| Copilia denticulata            | 1    | 4    | Oithona plumifera             |      | f    |
| quadrata                       |      | 1    | similis                       |      | f    |
| Corycaeus clausi               | r    |      | Oncaea curta                  | 2    |      |
| crassiusculus                  | 2    | c    | media                         |      | f    |
| furcifer                       |      | 1    | minuta                        |      | c    |
| limbatus                       | r    |      | similis                       |      | f    |
| longistylis                    | f    | 2    | venusta                       |      | c    |
| pacificus                      | 3    |      | Paracalanus parvus            |      | c    |
| speciosus                      | c    | f    | Pontella tenuiremis           | f    |      |
| Euchaeta marina                | c    | a    | Pontella lobiancoi            |      | f    |
| Euchirella curticauda          |      | 4    | Pseudocalanus minutus         |      | f    |
| pulchra                        | 1    |      | Sapphirina nigromaculata      | 1    |      |
| Farranula carinata             | c    | a    | Scolecithrix danae            |      | a    |
| Corycaeus agilis               | f    |      | Corycaeus giesbrechti         | f    |      |
| catus                          | c    |      | lautus                        | 3    |      |
| anglicus                       | f    |      | ovalis                        | 4    |      |
| flaccus                        | 1    |      | typicus                       | f    |      |

Sta. 91



N. W. Cook Is.

# STATION 92

27 Species

15° 18' S. 163° 14' W. March 29, 1929

Bottom depth 5530 m.

| Depth of tow, m.                 | 0    | 50   | Depth of tow, m.               | 0    | 50   |
|----------------------------------|------|------|--------------------------------|------|------|
| Temperature, C.                  | 28.5 | 28.4 | Density, $\sigma_t$            | 22.4 | 22.8 |
| Salinity, ‰                      | 35.3 | 35.4 | Phosphates, mg/m <sup>3</sup>  | 28   | 28   |
| Volume of tow, cm <sup>3</sup>   | 32   | 32   | Length of tow, miles           | 0.4  | 0.5  |
| Hydrogen ion pH                  | 8.29 | 8.29 |                                |      |      |
| <i>Acartia danae</i>             |      | C    | <i>Euchaeta marina</i>         |      | C    |
| <i>Acrocalanus gibber</i>        |      | 2    | <i>Euchirella curticauda</i>   |      | 1    |
| <i>gracilis</i>                  | f    |      | <i>Farranula carinata</i>      | C    | C    |
| <i>monachus</i>                  |      | f    | <i>gibbula</i>                 | f    |      |
| <i>Candacia bispinosa</i>        |      | 2    | <i>rostrata</i>                | f    | C    |
| <i>simplex</i>                   | 1    |      | <i>Mecynocera clausi</i>       |      | 3    |
| <i>Clausocalanus arcuicornis</i> | f    |      | <i>Megacalanus longicornis</i> |      | 1    |
| <i>Copilia denticulata</i>       |      | 5    | <i>Microsetella rosea</i>      |      | C    |
| <i>quadrata</i>                  |      | 1    | <i>Neocalanus gracilis</i>     |      | 3    |
| <i>Corycaeus crassiusculus</i>   | 4    | C    | <i>Oithona similis</i>         |      | f    |
| <i>pumilus</i>                   |      | f    | <i>spinirostris</i>            |      | 2    |
| <i>speciosus</i>                 |      | f    | <i>Oncaea minuta</i>           |      | f    |
| <i>typicus</i>                   | 2    |      | <i>Paracalanus parvus</i>      | f    | C    |
|                                  |      |      | <i>Pseudocalanus minutus</i>   | f    | C    |
|                                  |      |      | 5/2-92                         |      |      |



STATION 93  
14° 41' S. 167° 41' W. March 31, 1929  
Bottom depth 5208m.

56 Species

| Depth of tow, m.                 | 0    | 50   | Depth of tow, m.              | 0    | 50   |
|----------------------------------|------|------|-------------------------------|------|------|
| Temperature, C.                  | 28.7 | 28.5 | Density, $\sigma_t$ P.        | 21.9 | 22.3 |
| Salinity, ‰                      | 34.7 | 34.7 | Phosphates, mg/m <sup>3</sup> | 28   | 28   |
| Volume of tow, cm <sup>3</sup>   | 32   | 32   | Length of tow, miles          | 0.2  | 0.3  |
| Hydrogen ion pH                  | 8.30 | 8.30 |                               |      |      |
| <i>Acartia danae</i>             |      | c    | <i>Euchirella brevis</i>      |      | 5    |
| <i>Acrocalanus gibber</i>        | f    | f    | <i>curticauda</i>             |      | 1    |
| <i>gracilis</i>                  | a    | a    | <i>Farranula carinata</i>     | a    | f    |
| <i>longicornis</i>               | f    | f    | <i>gibbula</i>                | f    |      |
| <i>monachus</i>                  |      | c    | <i>rostrata</i>               | a    | a    |
| <i>Calanus minor</i>             | f    | f    | <i>Macrosetella gracilis</i>  | 1    |      |
| <i>Calocalanus pavo</i>          |      | 1    | <i>Microcalanus pygmaeus</i>  |      | f    |
| <i>Candacia bispinosa</i>        |      | f    | <i>Microsetella rosea</i>     |      | f    |
| <i>norvegica</i>                 |      | 3    | <i>Neocalanus gracilis</i>    |      | f    |
| <i>simplex</i>                   | f    | c    | <i>Oithona attenuata</i>      |      | 2    |
| <i>truncata</i>                  |      | 5    | <i>similis</i>                |      | c    |
| <i>Centropages calaninus</i>     |      | c    | <i>spinirostris</i>           |      | 4    |
| <i>Clausocalanus arcuicornis</i> |      | f    | <i>Oithonina nana</i>         | 2    |      |
| <i>Corycaeus andrewsi</i>        | f    |      | <i>Oncaea minuta</i>          | f    | c    |
| <i>clausi</i>                    | 2    |      | <i>venusta</i>                | c    | a    |
| <i>crassiusculus</i>             | f    | a    | <i>Paracalanus parvus</i>     | f    |      |
| <i>giesbrechti</i>               |      | 3    | <i>Pontella tenuiremis</i>    | f    |      |
| <i>longistylis</i>               |      | c    | <i>Pontellina plumata</i>     |      | 5    |
| <i>ovalis</i>                    |      | f    | <i>Pseudocalanus minutus</i>  | f    | c    |
| <i>pacificus</i>                 |      | f    | <i>Sapphirina auronitens</i>  |      | 1    |
| <i>pumilus</i>                   |      | 3    | <i>nigromaculata</i>          |      | 2    |
| <i>speciosus</i>                 | r    | c    | <i>Scolecithrix danae</i>     |      | a    |
| <i>Eucalanus elongatus</i>       |      | 2    | <i>Temora discaudata</i>      |      | 2    |
| <i>Euchaeta marina</i>           |      | f    | <i>Calocalanus plumulosus</i> |      | 1    |
| <i>Calocalanus styliremis</i>    |      | 2    | <i>Undinula vulgaris</i>      |      | f    |
| <i>Eucalanus attenuatus</i>      |      | 1    | <i>Oncaea tenella</i>         |      | 1    |
| <i>Labidocera detroncata</i>     |      | 1    | <i>Scolecithricella minor</i> |      | 1    |
| <i>Oithona brevicornis</i>       |      | 1    | <i>Undinula darwini</i>       |      | 2    |



STATION 94  
12° 47' S. 171° 35' W. April 22, 1929  
Bottom depth 4760m.

64 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 29.4 | 29.3 | 28.5 | Density, $\sigma_t P$ .         | 21.7 | 22.0 | 23.1 |
| Salinity, ‰                      | 34.7 | 34.7 | 35.5 | Phosphates, mg/m <sup>3</sup>   | 14   | 14   | 25   |
| Volume of tow, cm <sup>3</sup>   | 34   | 48   | 80   | Length of tow, miles            | 1.0  | 1.2  | 1.3  |
| Hydrogen ion pH                  | 8.25 | 8.25 | 8.21 |                                 |      |      |      |
| <i>Acartia danae</i>             |      |      | f    | <i>Haloptilus longicornis</i>   |      |      | a    |
| <i>Acrocalanus gracilis</i>      |      | c    | f    | <i>spiniceps</i>                |      |      | 3    |
| <i>monachus</i>                  |      | f    | f    | <i>Heterorhabdus papillager</i> |      |      | 1    |
| <i>Calanus minor</i>             |      | f    | c    | <i>Lubbockia squillimana</i>    |      |      | f    |
| <i>Calocalanus pavo</i>          |      |      | 2    | <i>Lucicutia flavicornis</i>    |      |      | f    |
| <i>Candacia bispinosa</i>        |      | c    | f    | <i>Macrosetella oculata</i>     |      |      | 1    |
| <i>norvegica</i>                 |      | 2    |      | <i>Mecynocera clausi</i>        |      |      | f    |
| <i>simplex</i>                   |      | a    |      | <i>Microcalanus pusillus</i>    |      |      | 2    |
| <i>truncata</i>                  |      | a    | c    | <i>pygmaeus</i>                 |      | f    | f    |
| <i>Centropages calaninus</i>     |      |      | 2    | <i>Microsetella rosea</i>       |      | f    | f    |
| <i>Clausocalanus arcuicornis</i> |      | c    | f    | <i>Neocalanus gracilis</i>      |      |      | 2    |
| <i>Clytemnestra scutellata</i>   |      |      | 1    | <i>Oithona attenuata</i>        |      |      | 2    |
| <i>Copilia denticulata</i>       |      | 5    | f    | <i>plumifera</i>                |      | f    | f    |
| <i>quadrata</i>                  |      | 2    | 2    | <i>similis</i>                  |      | f    | c    |
| <i>Corycaeus agilis</i>          |      | r    |      | <i>spinirostris</i>             |      | f    | f    |
| <i>crassiusculus</i>             | 1    | a    | c    | <i>setigera</i>                 |      |      | 5    |
| <i>longistylis</i>               |      | c    | f    | <i>Oncaea media</i>             |      | f    |      |
| <i>pumilus</i>                   |      | r    |      | <i>minuta</i>                   |      | a    | c    |
| <i>speciosus</i>                 |      | c    | c    | <i>venusta</i>                  |      | a    | c    |
| <i>typicus</i>                   |      |      | 4    | <i>Paracalanus parvus</i>       |      | c    | c    |
| <i>Eucalanus attenuatus</i>      |      | f    | f    | <i>Pontellina plumata</i>       |      | 3    | 2    |

Sta. 94



STATION 94  
12° 47' S. 171° 35' W. April 22, 1929  
Bottom depth 4760m.

64 Species

| Depth of tow, m.                  | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|-----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                   | 29.4 | 29.3 | 28.5 | Density, $\sigma_t P$ .         | 21.7 | 22.0 | 23.1 |
| Salinity, ‰                       | 34.7 | 34.7 | 35.5 | Phosphates, mg/m <sup>3</sup>   | 14   | 14   | 25   |
| Volume of tow, cm <sup>3</sup>    | 34   | 48   | 80   | Length of tow, miles            | 1.0  | 1.2  | 1.3  |
| Hydrogen ion pH                   | 8.25 | 8.25 | 8.21 |                                 |      |      |      |
| <i>Acartia danae</i>              |      |      | f    | <i>Haloptilus longicornis</i>   |      |      | a    |
| <i>Acrocalanus gracilis</i>       |      | c    | f    | <i>spiniceps</i>                |      |      | 3    |
| <i>monachus</i>                   |      | f    | f    | <i>Heterorhabdus papillager</i> |      |      | 1    |
| <i>Calanus minor</i>              |      | f    | c    | <i>Lubbockia squillimana</i>    |      |      | f    |
| <i>Calocalanus pavo</i>           |      |      | 2    | <i>Lucicutia flavicornis</i>    |      |      | f    |
| <i>Candacia bispinosa</i>         |      | c    | f    | <i>Macrosetella oculata</i>     |      |      | 1    |
| <i>norvegica</i>                  |      | 2    |      | <i>Mecynocera clausi</i>        |      |      | f    |
| <i>simplex</i>                    |      | a    |      | <i>Microcalanus pusillus</i>    |      |      | 2    |
| <i>truncata</i>                   |      | a    | c    | <i>pygmaeus</i>                 |      | f    | f    |
| <i>Centropages calaninus</i>      |      |      | 2    | <i>Microsetella rosea</i>       |      | f    | f    |
| <i>Clausocalanus arcuicornis</i>  |      | c    | f    | <i>Neocalanus gracilis</i>      |      |      | 2    |
| <i>Clytemnestra scutellata</i>    |      |      | 1    | <i>Oithona attenuata</i>        |      |      | 2    |
| <i>Copilia denticulata</i>        |      | 5    | f    | <i>plumifera</i>                |      | f    | f    |
| <i>quadrata</i>                   |      | 2    | 2    | <i>similis</i>                  |      | f    | c    |
| <i>Corycaeus agilis</i>           |      | r    |      | <i>spinirostris</i>             |      | f    | f    |
| <i>crassiusculus</i>              | 1    | a    | c    | <i>setigera</i>                 |      |      | 5    |
| <i>longistylis</i>                |      | c    | f    | <i>Oncaea media</i>             |      | f    |      |
| <i>pumilus</i>                    |      | r    |      | <i>minuta</i>                   |      | a    | c    |
| <i>speciosus</i>                  |      | c    | c    | <i>venusta</i>                  |      | a    | c    |
| <i>typicus</i>                    |      |      | 4    | <i>Paracalanus parvus</i>       |      | c    | c    |
| <i>Eucalanus attenuatus</i>       |      | f    | f    | <i>Pontellina plumata</i>       |      | 3    | 2    |
| <i>crassus</i>                    |      | 3    |      | <i>Pseudocalanus minutus</i>    |      | f    | c    |
| <i>elongatus</i>                  |      | 5    |      | <i>Sapphirina angusta</i>       |      | 1    |      |
| <i>Euchaeta marina</i>            |      | f    | f    | <i>nigromaculata</i>            |      | 4    | 3    |
| <i>Farranula carinata</i>         | 2    | a    | c    | <i>Scolecithrix danae</i>       |      | c    | f    |
| <i>curta</i>                      |      | f    |      | <i>Undinula darwini</i>         |      | f    |      |
| <i>gibbula</i>                    |      |      | f    | <i>vulgaris</i>                 |      | a    |      |
| <i>rostrata</i>                   | 1    | c    | c    | <i>Vetтория granulosa</i>       |      |      | 2    |
| <i>Canthocalanus pauper</i>       |      | 4    |      | <i>Danodes plumata</i>          | 1    |      |      |
| <i>Corycaeus laevis</i>           | 2    |      |      | <i>Oncaea mediterranea</i>      | 3    |      |      |
| <i>Scolecithricella propinqua</i> |      | 1    |      | <i>Sapphirina auronitens</i>    | 2    |      |      |
| <i>Acartia negligens</i>          | 2    |      | 2    | <i>metallina</i>                |      |      | 1    |



# STATION 95

74 Species

8° 43' S. 170° 56' W. April 24, 1929

Bottom depth 4298m.

| Depth of tow, m.               | 50   | 100  | Depth of tow, m.               | 50   | 100  |
|--------------------------------|------|------|--------------------------------|------|------|
| Temperature, C.                | 29.3 | 28.5 | Density, $\sigma_t$            | 22.1 | 23.0 |
| Salinity, ‰                    | 34.9 | 35.4 | Phosphates, mg/m <sup>3</sup>  | 16   | 22   |
| Volume of tow, cm <sup>3</sup> | 48   | 80   | Length of tow, miles           | 1.9  | 2.2  |
| Hydrogen ion pH                | 8.24 | 8.22 |                                |      |      |
| <i>Acrocalanus gibber</i>      | 2    | 4    | <i>Lubbockia aculeata</i>      |      | 3    |
| <i>gracilis</i>                | c    | c    | <i>squillimana</i>             |      | f    |
| <i>longicornis</i>             | 1    | f    | <i>Lucicutia bicornuta</i>     |      | 2    |
| <i>monachus</i>                | a    | c    | <i>Lucicutia clausi</i>        |      | f    |
| <i>Calanus minor</i>           | f    | c    | <i>flavicornis</i>             |      | c    |
| <i>Calocalanus pavo</i>        | 1    |      | <i>Macrosetella gracilis</i>   | 2    |      |
| <i>Candacia aethiopica</i>     | 4    | f    | <i>Mecynocera clausi</i>       | 2    | 3    |
| <i>bispinosa</i>               | 4    |      | <i>Megacalanus longicornis</i> |      | 1    |
| <i>norvegica</i>               |      | 2    | <i>Microcalanus pusillus</i>   | 2    | 2    |

Sta. 95



STATION 95  
8° 43' S. 170° 56' W. April 24, 1929  
Bottom depth 4298m.

74 Species

| Depth of tow, m.                 | 50   | 100  | Depth of tow, m.               | 50   | 100  |
|----------------------------------|------|------|--------------------------------|------|------|
| Temperature, C.                  | 29.3 | 28.5 | Density, $\sigma_t$            | 22.1 | 23.0 |
| Salinity, ‰                      | 34.9 | 35.4 | Phosphates, mg/m <sup>3</sup>  | 16   | 22   |
| Volume of tow, cm <sup>3</sup>   | 48   | 80   | Length of tow, miles           | 1.9  | 2.2  |
| Hydrogen ion pH                  | 8.24 | 8.22 |                                |      |      |
| <i>Acrocalanus gibber</i>        | 2    | 4    | <i>Lubbockia aculeata</i>      |      | 3    |
| <i>gracilis</i>                  | c    | c    | <i>squillimana</i>             |      | f    |
| <i>longicornis</i>               | 1    | f    | <i>Lucicutia bicornuta</i>     |      | 2    |
| <i>monachus</i>                  | a    | c    | <i>Lucicutia clausi</i>        |      | f    |
| <i>Calanus minor</i>             | f    | c    | <i>flavicornis</i>             |      | c    |
| <i>Calocalanus pavo</i>          | 1    |      | <i>Macrosetella gracilis</i>   | 2    |      |
| <i>Candacia aethiopica</i>       | 4    | f    | <i>Mecynocera clausi</i>       | 2    | 3    |
| <i>bispinosa</i>                 | 4    |      | <i>Megacalanus longicornis</i> |      | 1    |
| <i>norvegica</i>                 |      | 2    | <i>Microcalanus pusillus</i>   | 2    | 2    |
| <i>simplex</i>                   | a    | f    | <i>pygmaeus</i>                | f    | f    |
| <i>truncata</i>                  | a    | c    | <i>Microsetella rosea</i>      | c    | c    |
| <i>Centropages calaninus</i>     | f    |      | <i>Neocalanus gracilis</i>     |      | 4    |
| <i>Clausocalanus arcuicornis</i> | f    | c    | <i>robustior</i>               |      | 4    |
| <i>Clytemnestra rostrata</i>     | 1    |      | <i>Oithona fallax</i>          |      | 2    |
| <i>Copilia denticulata</i>       | f    | f    | <i>plumifera</i>               | f    |      |
| <i>quadrata</i>                  | 3    | 2    | <i>setiger</i>                 |      | 2    |
| <i>vitrea</i>                    | 1    |      | <i>similis</i>                 | c    | c    |
| <i>Corycaeus anglicus</i>        |      | r    | <i>spinirostris</i>            | f    | f    |
| <i>clausi</i>                    |      | 2    | <i>Oithonina nana</i>          | 2    | 2    |
| <i>crassiusculus</i>             | c    | a    | <i>Oncaea curta</i>            | r    |      |
| <i>dubius</i>                    |      | 1    | <i>media</i>                   |      | f    |
| <i>furcifer</i>                  |      | r    | <i>minuta</i>                  | c    | a    |
| <i>limbatus</i>                  | 1    |      | <i>similis</i>                 | c    |      |
| <i>longistylis</i>               | 2    | f    | <i>tenella</i>                 | 2    |      |
| <i>ovalis</i>                    | 3    |      | <i>venusta</i>                 | a    | a    |
| <i>pumilus</i>                   | f    |      | <i>Paracalanus parvus</i>      | c    | c    |
| <i>speciosus</i>                 | 3    |      | <i>Pseudocalanus minutus</i>   | c    | c    |
| <i>Eucalanus attenuatus</i>      | f    | f    | <i>Rhincalanus cornutus</i>    | 1    |      |
| <i>crassus</i>                   | f    |      | <i>Sapphirina avronitens</i>   | 2    | 1    |
| <i>elongatus</i>                 | f    |      | <i>metallina</i>               |      | 3    |
| <i>Euchaeta marina</i>           | c    | c    | <i>nigromaculata</i>           | 1    | 3    |
| <i>Euchirella brevis</i>         | 1    | 2    | <i>Scolecithricella minor</i>  | 1    |      |
| <i>Farranula carinata</i>        | c    | a    | <i>propinqua</i>               |      | 3    |
| <i>curta</i>                     | 4    |      | <i>Canthocalanus pauper</i>    |      | 1    |
| <i>gibbula</i>                   | f    |      | <i>Scolecithrix danae</i>      | c    | c    |
| <i>rostrata</i>                  | f    | f    | <i>Undinula darwini</i>        | 2    | f    |
| <i>Haloptilus longicornis</i>    |      | a    | <i>Vetтория granulosa</i>      |      | 4    |



OFF SAMOA ISLAND  
surface only

15 Species

|                               |   |
|-------------------------------|---|
| <i>Acartia danae</i>          | f |
| <i>Calanopia elliptica</i>    | a |
| <i>Calanus minor</i>          | f |
| <i>propinquus</i>             | 1 |
| <i>Calocalanus styliremis</i> | 2 |
| <i>Candacia simplex</i>       | 2 |
| <i>Canthocalanus pauper</i>   | 1 |
| <i>Microcalanus pygmaeus</i>  | 2 |

|                           |   |
|---------------------------|---|
| <i>Oithona plumifera</i>  | 2 |
| <i>spirostris</i>         | 1 |
| <i>Oncaea media</i>       | r |
| <i>minuta</i>             | f |
| <i>ornata</i>             | 5 |
| <i>Paracalanus parvus</i> | f |
| <i>Undinula vulgaris</i>  | a |



BETWEEN STATIONS 95 & 96  
07° 59' S. 171° 49' W. April 25, 1929  
Surface only

16 Species

|                        |   |
|------------------------|---|
| Acrocalanus gibber     | f |
| gracilis               | c |
| monachus               | f |
| Calanus minor          | c |
| Calocalanus plumulosus | 1 |
| Candacia simplex       | a |
| Centropages calaninus  | 1 |
| Corycaeus speciosus    | 2 |

|                         |   |
|-------------------------|---|
| Corycaeus crassiusculus | f |
| Euchaeta acuta          | 4 |
| Farranula carinata      | f |
| rostrata                | f |
| Oithona plumifera       | 1 |
| similis                 | 2 |
| Paracalanus parvus      | c |
| Pseudocalanus minutus   | c |

5/2-96



STATION 96  
6°47'S. 172°23'W. April 26, 1929  
Bottom depth 5269m.

68 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C                   | 29.3 | 29.2 | 28.2 | Density, $\sigma_t$             | 22.1 | 22.4 | 23.2 |
| Salinity, ‰                      | 35.2 | 35.2 | 35.6 | Phosphates, mg/m <sup>3</sup>   | 12   | 12   | 25   |
| Volume of tow, cm <sup>3</sup>   | 48   | 64   | 64   | Length of tow, miles            | 0.9  | 1.2  | 1.2  |
| Hydrogen ion pH                  | 8.23 | 8.23 | 8.19 |                                 |      |      |      |
| <i>Acartia danae</i>             |      | c    |      | <i>Haloptilus longicornis</i>   |      |      | a    |
| <i>negligens</i>                 |      |      | 2    | <i>spiniceps</i>                |      |      | 2    |
| <i>Acrocalanus gracilis</i>      |      | c    | c    | <i>Heterorhabdus papillager</i> |      |      | 2    |
| <i>longicornis</i>               |      | f    |      | <i>Lubbockia squillimana</i>    |      |      | 1    |
| <i>monachus</i>                  |      |      | 2    | <i>Lucicutia clausi</i>         |      |      | c    |
| <i>Calanus minor</i>             | f    | a    | c    | <i>flavicornis</i>              |      |      | a    |
| <i>Calocalanus pavo</i>          |      | 2    | 2    | <i>Macrosetella gracilis</i>    | 2    | 2    | 1    |
| <i>Candacia bispinosa</i>        |      | c    | c    | <i>oculata</i>                  |      |      | 1    |
| <i>norvegica</i>                 |      | f    | f    | <i>Microcalanus pusillus</i>    |      |      | 2    |
| <i>simplex</i>                   | c    | a    | a    | <i>pygmaeus</i>                 |      | f    | f    |
| <i>truncata</i>                  |      | c    | f    | <i>Microsetella rosea</i>       |      | c    | f    |
| <i>Centropages calaninus</i>     | 2    | f    | f    | <i>Neocalanus gracilis</i>      |      |      | 4    |
| <i>Clausocalanus arcuicornis</i> |      | f    | f    | <i>robustior</i>                |      |      | f    |
| <i>Clytemnestra rostrata</i>     |      |      | 1    | <i>Oithona attenuata</i>        |      | 2    | 2    |
| <i>scutellata</i>                |      | 2    |      | <i>plumifera</i>                |      | f    | 2    |
| <i>Copilia denticulata</i>       |      | f    | 4    | <i>similis</i>                  |      | f    | f    |
| <i>vitrea</i>                    |      |      | 2    | <i>spinirostris</i>             |      | 4    | 1    |
| <i>Corucaeus catus</i>           |      |      | f    | <i>Oncaea media</i>             |      |      | 10   |

Sta. 96



STATION 96  
6°47'S. 172°23'W. April 26, 1929  
Bottom depth 5269m.

68 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C                   | 29.3 | 29.2 | 28.2 | Density, $\sigma_t$ P.          | 22.1 | 22.4 | 23.2 |
| Salinity, ‰                      | 35.2 | 35.2 | 35.6 | Phosphates, mg/m <sup>3</sup>   | 12   | 12   | 25   |
| Volume of tow, cm <sup>3</sup>   | 48   | 64   | 64   | Length of tow, miles            | 0.9  | 1.2  | 1.2  |
| Hydrogen ion pH                  | 8.23 | 8.23 | 8.19 |                                 |      |      |      |
| <i>Acartia danae</i>             |      | c    |      | <i>Haloptilus longicornis</i>   |      |      | a    |
| <i>negligens</i>                 |      |      | 2    | <i>spiniceps</i>                |      |      | 2    |
| <i>Acrocalanus gracilis</i>      |      | c    | c    | <i>Heterorhabdus papillager</i> |      |      | 2    |
| <i>longicornis</i>               |      | f    |      | <i>Lubbockia squillimana</i>    |      |      | 1    |
| <i>monachus</i>                  |      |      | 2    | <i>Lucicutia clausi</i>         |      |      | c    |
| <i>Calanus minor</i>             | f    | a    | c    | <i>flavicornis</i>              |      |      | a    |
| <i>Calocalanus pavo</i>          |      | 2    | 2    | <i>Macrosetella gracilis</i>    | 2    | 2    | 1    |
| <i>Candacia bispinosa</i>        |      | c    | c    | <i>oculata</i>                  |      |      | 1    |
| <i>norvegica</i>                 |      | f    | f    | <i>Microcalanus pusillus</i>    |      |      | 2    |
| <i>simplex</i>                   | c    | a    | a    | <i>pygmaeus</i>                 |      | f    | f    |
| <i>truncata</i>                  |      | c    | f    | <i>Microsetella rosea</i>       |      | c    | f    |
| <i>Centropages calaninus</i>     | 2    | f    | f    | <i>Neocalanus gracilis</i>      |      |      | 4    |
| <i>Clausocalanus arcuicornis</i> |      | f    | f    | <i>robustior</i>                |      |      | f    |
| <i>Clytemnestra rostrata</i>     |      |      | 1    | <i>Oithona attenuata</i>        |      | 2    | 2    |
| <i>scutellata</i>                |      | 2    |      | <i>plumifera</i>                |      | f    | 2    |
| <i>Copilia denticulata</i>       |      | f    | 4    | <i>similis</i>                  |      | f    | f    |
| <i>vitrea</i>                    |      |      | 2    | <i>spinirostris</i>             |      | 4    | 1    |
| <i>Corycaeus catus</i>           |      |      | f    | <i>Oncaea media</i>             |      |      | r    |
| <i>crassiusculus</i>             | f    | c    | c    | <i>minuta</i>                   | f    | c    | c    |
| <i>dubius</i>                    |      | r    |      | <i>similis</i>                  |      | 3    |      |
| <i>giesbrechti</i>               |      |      | 2    | <i>venusta</i>                  | f    | a    | a    |
| <i>limbatus</i>                  | r    |      |      | <i>Paracalanus parvus</i>       | f    | c    | c    |
| <i>longistylis</i>               |      | f    | f    | <i>Phaenna spinifera</i>        |      | 2    |      |
| <i>pumilus</i>                   | 2    |      |      | <i>Pontella tenuiremis</i>      | 1    |      |      |
| <i>speciosus</i>                 |      | f    | f    | <i>Pontellina plumata</i>       | 1    | 4    |      |
| <i>typicus</i>                   |      | f    |      | <i>Pseudocalanus minutus</i>    |      | c    | c    |
| <i>Eucalanus attenuatus</i>      |      | f    |      | <i>Sapphirina auronitens</i>    | c    |      | f    |
| <i>crassus</i>                   |      | f    |      | <i>nigromaculata</i>            |      |      | 2    |
| <i>elongatus</i>                 |      |      | 1    | <i>Scolecithricella minor</i>   |      | 3    |      |
| <i>Euchaeta marina</i>           |      | c    | f    | <i>obtusifrons</i>              |      |      | 4    |
| <i>Farranula curinata</i>        | c    | a    | a    | <i>Scolecithrix danae</i>       |      | c    | c    |
| <i>curta</i>                     | 3    |      |      | <i>Undinula caroli</i>          |      | 2    |      |
| <i>gibbula</i>                   | f    |      | c    | <i>darwini</i>                  |      | f    |      |
| <i>rostrata</i>                  | c    | f    | f    | <i>Vetatoria granulosa</i>      |      |      | 3    |



STATION 97  
3° 47' S. 172° 39' W. April 28, 1929  
Bottom depth 5253 m.

74 Species

|                                  |      |      |      |                                 |      |      |      |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
| Temperature, C                   | 28.3 | 28.0 | 27.6 | Density, $\sigma_t P$           | 22.4 | 22.9 | 23.4 |
| Salinity, ‰                      | 35.1 | 35.3 | 35.5 | Phosphates, mg/m <sup>3</sup>   | 24   | 21   | 25   |
| Volume of tow, cm <sup>3</sup>   | 32   | 36   | 80   | Length of tow, miles            | 0.5  | 0.6  | 0.7  |
| Hydrogen ion                     | 8.16 | 8.16 | 8.15 |                                 |      |      |      |
| <i>Acartia danae</i>             |      | c    | c    | <i>Haloptilus longicornis</i>   |      |      | a    |
| <i>negligens</i>                 |      | r    |      | <i>spiniceps</i>                |      | 2    |      |
| <i>Acrocalanus gibber</i>        | a    | f    | f    | <i>Heterorhabdus papillager</i> |      |      | 1    |
| <i>gracilis</i>                  | a    | c    | c    | <i>Labidocera detruncata</i>    | 2    |      |      |
| <i>longicornis</i>               | f    | c    |      | <i>Lucicutia flavicornis</i>    |      |      | c    |
| <i>monachus</i>                  | f    | c    | 2    | <i>longicornis</i>              |      |      | 1    |
| <i>Calanus minor</i>             |      | c    | c    | <i>Macrosetella gracilis</i>    |      | 2    |      |
| <i>Calocalanus pavo</i>          | 2    | 5    | 2    | <i>Mecynocera clausi</i>        |      | 2    |      |
| <i>Candacia bispinosa</i>        |      |      | f    | <i>Megacalanus longicornis</i>  |      | f    | 4    |
| <i>simplex</i>                   | 2    |      |      | <i>Microcalanus pygmaeus</i>    | f    |      | f    |
| <i>truncata</i>                  |      | f    | f    | <i>Microsetella norvegica</i>   |      | f    |      |
| <i>Canthocalanus pauper</i>      |      | c    |      | <i>rosea</i>                    |      | c    | c    |
| <i>Centropages calaninus</i>     | f    | f    | 2    | <i>Miracia efferata</i>         |      | 2    |      |
| <i>Clausocalanus arcuicornis</i> |      | f    | f    | <i>Neocalanus gracilis</i>      |      | f    | f    |
| <i>Clytemnestra scutellata</i>   |      | 2    | 1    | <i>robustior</i>                |      | f    | c    |
| <i>Copilia denticulata</i>       |      | f    | 4    | <i>Oithona attenuata</i>        |      |      | f    |
| <i>quadrata</i>                  |      | 2    |      | <i>plumifera</i>                |      | 4    | f    |
| <i>Corycaeus agilis</i>          | 3    |      |      | <i>similis</i>                  |      | f    | c    |
| <i>catus</i>                     |      | r    |      | <i>spinirostris</i>             |      |      | 4    |

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STATION 97  
3° 47' S. 172° 39' W. April 28, 1929  
Bottom depth 5253 m.

74 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C                   | 28.3 | 28.0 | 27.6 | Density, $\sigma_t P$           | 22.4 | 22.9 | 23.4 |
| Salinity, ‰                      | 35.1 | 35.3 | 35.5 | Phosphates, mg/m <sup>3</sup>   | 2.4  | 2.1  | 2.5  |
| Volume of tow, cm <sup>3</sup>   | 32   | 36   | 80   | Length of tow, miles            | 0.5  | 0.6  | 0.7  |
| Hydrogen ion                     | 8.16 | 8.16 | 8.15 |                                 |      |      |      |
| <i>Acartia danae</i>             |      | c    | c    | <i>Haloptilus longicornis</i>   |      |      | a    |
| <i>negligens</i>                 |      | r    |      | <i>spiniceps</i>                |      | 2    |      |
| <i>Acrocalanus gibber</i>        | a    | f    | f    | <i>Heterorhabdus papillager</i> |      |      | 1    |
| <i>gracilis</i>                  | a    | c    | c    | <i>Labidocera detruncata</i>    | 2    |      |      |
| <i>longicornis</i>               | f    | c    |      | <i>Lucicutia flavicornis</i>    |      |      | c    |
| <i>monachus</i>                  | f    | c    | 2    | <i>longicornis</i>              |      |      | 1    |
| <i>Calanus minor</i>             |      | c    | c    | <i>Macrosetella gracilis</i>    |      | 2    |      |
| <i>Calocalanus pavo</i>          | 2    | 5    | 2    | <i>Mecynocera clausi</i>        |      | 2    |      |
| <i>Candacia bispinosa</i>        |      |      | f    | <i>Megacalanus longicornis</i>  |      | f    | 4    |
| <i>simplex</i>                   | 2    |      |      | <i>Microcalanus pygmaeus</i>    | f    |      | f    |
| <i>truncata</i>                  |      | f    | f    | <i>Microsetella norvegica</i>   |      | f    |      |
| <i>Canthocalanus pauper</i>      |      | c    |      | <i>rosea</i>                    |      | c    | c    |
| <i>Centropages calaninus</i>     | f    | f    | 2    | <i>Miracia efferata</i>         |      | 2    |      |
| <i>Clausocalanus arcuicornis</i> |      | f    | f    | <i>Neocalanus gracilis</i>      |      | f    | f    |
| <i>Clytemnestra scutellata</i>   |      | 2    | 1    | <i>robustior</i>                |      | f    | c    |
| <i>Copilia denticulata</i>       |      | f    | 4    | <i>Oithona attenuata</i>        |      |      | f    |
| <i>quadrata</i>                  |      | 2    |      | <i>plumifera</i>                |      | 4    | f    |
| <i>Corycaeus agilis</i>          | 3    |      |      | <i>similis</i>                  |      | f    | c    |
| <i>catus</i>                     |      | r    |      | <i>spinirostris</i>             |      |      | 4    |
| <i>crassiusculus</i>             | c    | c    | c    | <i>Oncaea curta</i>             | 2    |      |      |
| <i>lautus</i>                    | r    |      |      | <i>minuta</i>                   | c    | a    | a    |
| <i>longistylis</i>               | f    | f    | 3    | <i>similis</i>                  |      | r    |      |
| <i>lubbockii</i>                 |      | 2    |      | <i>venusta</i>                  | c    | a    | a    |
| <i>speciosus</i>                 |      | c    | f    | <i>Paracalanus parvus</i>       | c    | a    | c    |
| <i>typicus</i>                   |      |      | f    | <i>Pontella tenuiremis</i>      | 3    |      |      |
| <i>Eucalanus attenuatus</i>      |      | f    | f    | <i>Pontellina plumata</i>       |      | f    | 1    |
| <i>crassus</i>                   |      | 2    | 1    | <i>Pseudocalanus minutus</i>    | c    | c    | c    |
| <i>elongatus</i>                 |      | 5    | f    | <i>Sapphirina angusta</i>       | 3    |      |      |
| <i>Euchaeta acuta</i>            |      | f    |      | <i>auronitens</i>               | 2    |      | 2    |
| <i>marina</i>                    | f    | a    | c    | <i>metallina</i>                | 2    | 3    |      |
| <i>Euchirella brevis</i>         |      | 4    | 1    | <i>nigromaculata</i>            |      | 2    |      |
| <i>Farranula carinata</i>        | c    | c    |      | <i>ovatolanceolata</i>          | 1    |      |      |
| <i>concinna</i>                  |      |      | r    | <i>Scolecithrix danae</i>       | 2    | a    | c    |
| <i>gibbula</i>                   |      |      | f    | <i>Undinula caroli</i>          |      | f    |      |
| <i>rostrata</i>                  | a    | c    |      | <i>darwini</i>                  |      | c    | c    |
| <i>Calanus tonsus</i>            | 1    |      |      | <i>Neocalanus tenuicornis</i>   |      | 1    |      |
| <i>Microcalanus pusillus</i>     |      |      | 4    | <i>Oncaea mediterranea</i>      | 1    |      |      |



STATION 98  
0° 18' N. 173° 59' W. April 30, 1929  
Bottom depth 5599 m.

725 species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.              | 0    | 50   | 100  |
|----------------------------------|------|------|------|-------------------------------|------|------|------|
| Temperature, C.                  | 27.0 | 26.9 | 26.7 | Density, $\sigma_t P$ .       | 22.9 | 23.2 | 23.5 |
| Salinity, ‰                      | 35.2 | 35.3 | 35.4 | Phosphates, mg/m <sup>3</sup> | 24   | 27   | 33   |
| Volume of tow, cm <sup>3</sup>   | 48   | 80   | 96   | Length of tow, miles          | 1.3  | 1.3  | 1.3  |
| Hydrogen ion                     | 8.16 | 8.16 | 8.14 |                               |      |      |      |
| <i>Acartia danae</i>             | c    |      | c    | <i>Haloptilus longicornis</i> |      |      | f    |
| <i>Acrocalanus gibber</i>        |      | f    |      | <i>Labidocera detruncata</i>  | 2    |      |      |
| <i>gracilis</i>                  | a    | c    | f    | <i>Lucicutia clausi</i>       |      | f    |      |
| <i>longicornis</i>               |      | f    |      | <i>Macrosetella gracilis</i>  | 1    | 1    | 2    |
| <i>monachus</i>                  |      | f    |      | <i>oculata</i>                |      | 1    |      |
| <i>Calanus minor</i>             |      | f    | c    | <i>Mecynocera clausi</i>      |      | 2    |      |
| <i>Candacia bispinosa</i>        |      |      | 2    | <i>Microcalanus pusillus</i>  |      |      | f    |
| <i>norvegica</i>                 |      |      | 2    | <i>pygmaeus</i>               |      | c    |      |
| <i>simplex</i>                   |      | f    |      | <i>Microsetella rosea</i>     | f    | c    | c    |
| <i>truncata</i>                  |      | c    | c    | <i>Neocalanus gracilis</i>    |      | f    | f    |
| <i>Canthocalanus pauper</i>      | 2    | f    | f    | <i>robustior</i>              |      | 2    | f    |
| <i>Centropages calaninus</i>     | 2    | f    | f    | <i>Oithona attenuata</i>      | f    | f    | 3    |
| <i>Clausocalanus arcuicornis</i> | a    | f    | f    | <i>fallax</i>                 | 1    |      |      |
| <i>Clytemnestra rostrata</i>     |      | 2    |      | <i>plumifera</i>              |      | f    | f    |
| <i>scutellata</i>                |      |      | 3    | <i>similis</i>                | f    | f    | f    |
| <i>Copilia denticulata</i>       |      | 1    |      | <i>spinirostris</i>           |      | f    | f    |
| <i>quadrata</i>                  |      | 2    |      | <i>Oncaea conifera</i>        |      | 2    |      |

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STATION 98  
0° 18' N. 173° 59' W. April 30, 1929  
Bottom depth 5599 m.

725 species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.              | 0    | 50   | 100  |
|----------------------------------|------|------|------|-------------------------------|------|------|------|
| Temperature, C.                  | 27.0 | 26.9 | 26.7 | Density, $\sigma_t P$         | 22.9 | 23.2 | 23.5 |
| Salinity, ‰                      | 35.2 | 35.3 | 35.4 | Phosphates, mg/m <sup>3</sup> | 2.4  | 2.7  | 3.3  |
| Volume of tow, cm <sup>3</sup>   | 48   | 80   | 96   | Length of tow, miles          | 1.3  | 1.3  | 1.3  |
| Hydrogen ion                     | 8.16 | 8.16 | 8.14 |                               |      |      |      |
| <i>Acartia danae</i>             | c    |      | c    | <i>Haloptilus longicornis</i> |      |      | f    |
| <i>Acrocalanus gibber</i>        |      | f    |      | <i>Labidocera detruncata</i>  | 2    |      |      |
| <i>gracilis</i>                  | a    | c    | f    | <i>Lucicutia clausi</i>       |      | f    |      |
| <i>longicornis</i>               |      | f    |      | <i>Macrosetella gracilis</i>  | 1    | 1    | 2    |
| <i>monachus</i>                  |      | f    |      | <i>oculata</i>                |      | 1    |      |
| <i>Calanus minor</i>             |      | f    | c    | <i>Mecynocera clausi</i>      |      | 2    |      |
| <i>Candacia bispinosa</i>        |      |      | 2    | <i>Microcalanus pusillus</i>  |      |      | f    |
| <i>norvegica</i>                 |      |      | 2    | <i>pygmaeus</i>               |      | c    |      |
| <i>simplex</i>                   |      | f    |      | <i>Microsetella rosea</i>     | f    | c    | c    |
| <i>truncata</i>                  |      | c    | c    | <i>Neocalanus gracilis</i>    |      | f    | f    |
| <i>Canthocalanus pauper</i>      | 2    | f    | f    | <i>robustior</i>              |      | 2    | f    |
| <i>Centropages calaninus</i>     | 2    | f    | f    | <i>Oithona attenuata</i>      | f    | f    | 3    |
| <i>Clausocalanus arcuicornis</i> | a    | f    | f    | <i>fallax</i>                 | 1    |      |      |
| <i>Clytemnestra rostrata</i>     |      | 2    |      | <i>plumifera</i>              |      | f    | f    |
| <i>scutellata</i>                |      |      | 3    | <i>similis</i>                | f    | f    | f    |
| <i>Copilia denticulata</i>       |      | 1    |      | <i>spinirostris</i>           |      | f    | f    |
| <i>quadrata</i>                  |      | 2    |      | <i>Oncaea conifera</i>        |      | 2    |      |
| <i>Corycaeus crassiusculus</i>   | f    | a    |      | <i>media</i>                  | f    |      |      |
| <i>furcifer</i>                  | 3    |      |      | <i>minuta</i>                 | f    | c    | a    |
| <i>longistylis</i>               | f    | 1    | f    | <i>venusta</i>                | c    | a    | a    |
| <i>pumilus</i>                   | 1    |      |      | <i>Pachos punctatum</i>       |      |      | 2    |
| <i>robustus</i>                  |      | 1    |      | <i>Paracalanus parvus</i>     | a    | c    | c    |
| <i>speciosus</i>                 | f    | c    | f    | <i>Pontellina plumata</i>     | c    | f    | 3    |
| <i>typicus</i>                   |      | r    |      | <i>Pontellopsis armata</i>    | 2    |      |      |
| <i>Eucalanus attenuatus</i>      | 3    | f    | f    | <i>Pseudocalanus minutus</i>  | a    | c    | c    |
| <i>elongatus</i>                 |      | f    | 4    | <i>Rhincalanus cornutus</i>   |      | 1    | 1    |
| <i>Euchaeta acuta</i>            |      | f    | f    | <i>Sapphirina angusta</i>     | 2    |      |      |
| <i>marina</i>                    |      | a    | c    | <i>auronitens</i>             | 2    | 4    |      |
| <i>Euchirella brevis</i>         |      |      | 2    | <i>metallina</i>              |      | f    | 5    |
| <i>Farranula carinata</i>        | c    | c    |      | <i>nigromaculata</i>          |      | 4    | 5    |
| <i>curta</i>                     | 3    |      |      | <i>opalina</i>                |      | 1    |      |
| <i>gibbula</i>                   | f    |      |      | <i>Scolecithrix danae</i>     | 1    | c    | c    |
| <i>gracilis</i>                  |      | 2    |      | <i>Undinula caroli</i>        |      | f    | c    |
| <i>rostrata</i>                  | c    |      |      | <i>darwinii</i>               |      | f    | c    |
| <i>Calanus tonsus</i>            | 1    |      |      | <i>Pachos tuberosum</i>       |      | 1    |      |
| <i>Candacia longimana</i>        |      |      | 4    | <i>Calocalanus plumulosus</i> |      |      | 1    |



STATION 99  
4° 22' N. 176° 23' W. May 2, 1929  
Bottom depth 4951m.

52 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.              | 0    | 50   | 100  |
|----------------------------------|------|------|------|-------------------------------|------|------|------|
| Temperature, C                   | 27.9 | 27.8 | 27.8 | Density, $\sigma_t$ P.        | 22.3 | 22.6 | 22.9 |
| Salinity, ‰                      | 34.9 | 34.9 | 35.0 | Phosphates, mg/m <sup>3</sup> | 12   | 12   | 17   |
| Volume of tow, cm <sup>3</sup>   | 48   | 48   | 80   | Length of tow, miles          | 0.5  | 0.5  | 0.7  |
| Hydrogen ion pH                  | 8.21 | 8.22 | 8.22 |                               |      |      |      |
| <i>Acartia danae</i>             |      | f    | c    | <i>Farranula gibbula</i>      | c    |      |      |
| <i>Acrocalanus gibber</i>        | a    | a    | a    | <i>rostrata</i>               | c    | f    |      |
| <i>gracilis</i>                  | f    | c    | c    | <i>Labidocera detruncata</i>  | 4    |      |      |
| <i>longicornis</i>               |      | 2    |      | <i>Lucicutia flavicornis</i>  |      | f    |      |
| <i>monachus</i>                  |      | 1    | a    | <i>Macrosetella gracilis</i>  |      |      | 1    |
| <i>Calocalanus pavo</i>          | 2    | 1    | 5    | <i>Microcalanus pusillus</i>  |      | 2    | f    |
| <i>Candacia bispinosa</i>        |      |      | 4    | <i>pygmaeus</i>               | 4    |      | f    |
| <i>norvegica</i>                 |      | 2    | 1    | <i>Microsetella rosea</i>     |      | f    | a    |
| <i>truncata</i>                  |      | 4    | c    | <i>Neocalanus gracilis</i>    |      | 2    |      |
| <i>Canthocalanus pauper</i>      | 4    | f    | 2    | <i>robustior</i>              |      | 4    |      |
| <i>Centropages calaninus</i>     | 2    | 2    | 5    | <i>Oithona attenuata</i>      |      |      | f    |
| <i>Clausocalanus arcuicornis</i> |      |      | f    | <i>plumifera</i>              |      |      | f    |
| <i>Clytemnestra rostrata</i>     |      | 2    |      | <i>similis</i>                |      | f    | f    |
| <i>scutellata</i>                |      |      | 5    | <i>Oncaea media</i>           |      | f    |      |
| <i>Copilia quadrata</i>          |      |      | 1    | <i>minuta</i>                 | a    | c    | a    |
| <i>Corycaeus anglicus</i>        |      | 1    |      | <i>venusta</i>                |      | c    | a    |
| <i>crassiusculus</i>             | c    | c    | c    | <i>Paracalanus parvus</i>     |      | c    | f    |
| <i>limbatus</i>                  |      |      | 3    | <i>Pontellina plumata</i>     | 1    | 3    | 3    |
| <i>pumilus</i>                   |      |      | f    | <i>Pseudocalanus minutus</i>  |      | f    | f    |
| <i>speciosus</i>                 |      |      | f    | <i>Sapphirina auronitens</i>  | 2    |      |      |
| <i>Eucalanus attenuatus</i>      | 1    | 2    | f    | <i>nigromaculata</i>          | 2    |      | 2    |
| <i>elongatus</i>                 | 2    |      | f    | <i>scarlata</i>               | 1    |      |      |
| <i>Euchaeta acuta</i>            |      | 3    | 2    | <i>Scolecithrix danae</i>     |      | f    | a    |
| <i>marina</i>                    | f    | c    | a    | <i>Calocalanus plumulosus</i> |      | 1    | 3    |
| <i>Euchirella messinensis</i>    |      |      | 1    | <i>Undinula caroli</i>        |      |      | c    |
| <i>Farranula carinata</i>        | c    |      |      | <i>darwini</i>                |      | c    | a    |

Sta-99



STATION 100  
8° 05' N. 178° 48' W. May 4, 1929  
Bottom depth 5800 m.

50 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 27.7 | 27.6 | 27.6 | Density, $\sigma_t$             | 22.2 | 22.5 | 22.7 |
| Salinity, ‰                      | 34.7 | 34.7 | 34.7 | Phosphates, mg/m <sup>3</sup>   | 10   | 10   | 12   |
| Volume of tow, cm <sup>3</sup>   | 48   | 128  | 80   | Length of tow, miles            | 0.8  | 1    | 1    |
| Hydrogen ion                     | 8.21 | 8.21 | 8.22 |                                 |      |      |      |
| <i>Acartia danae</i>             |      | c    |      | <i>Eucalanus elongatus</i>      |      | 5    | 2    |
| <i>Acrocalanus gibber</i>        | a    |      | f    | <i>Euchaeta marina</i>          | f    | a    | a    |
| <i>gracilis</i>                  | a    | f    | c    | <i>Farranula carinata</i>       | c    | f    | 2    |
| <i>longicornis</i>               | f    | 2    | f    | <i>gibbula</i>                  |      | f    |      |
| <i>monachus</i>                  | f    | c    | 5    | <i>rostrata</i>                 | f    | f    |      |
| <i>Aetideus armatus</i>          |      |      | 1    | <i>Heterorhabdus papillager</i> |      |      | 2    |
| <i>Calocalanus pavo</i>          | 3    | 5    | f    | <i>Lucicutia flavicornis</i>    |      |      | 3    |
| <i>styliremis</i>                |      |      | 1    | <i>Microsetella rosea</i>       | f    | c    | f    |
| <i>Candacia bispinosa</i>        |      | f    |      | <i>Microcalanus pygmaeus</i>    | f    | 2    | f    |
| <i>curta</i>                     |      | 2    |      | <i>Neocalanus gracilis</i>      |      |      | f    |
| <i>norvegica</i>                 |      | 4    |      | <i>robustior</i>                |      |      | f    |
| <i>simplex</i>                   | f    | f    | 4    | <i>Oithona attenuata</i>        |      |      | 2    |
| <i>truncata</i>                  |      | f    | f    | <i>plumifera</i>                |      | f    | f    |
| <i>Canthocalanus pauper</i>      |      |      | f    | <i>similis</i>                  | f    | f    |      |
| <i>Centropages calaninus</i>     | 2    | 3    |      | <i>Oncaea curta</i>             |      | 3    |      |
| <i>Clausocalanus arcuicornis</i> |      |      | c    | <i>minuta</i>                   | c    | c    | f    |
| <i>Copilia denticulata</i>       | 2    |      | 1    | <i>venusta</i>                  | c    | a    | c    |
| <i>Corycaeus crassiusculus</i>   | a    | c    | c    | <i>Paracalanus parvus</i>       | c    | f    | c    |
| <i>dubius</i>                    | 3    |      |      | <i>Pseudocalanus minutus</i>    |      | f    |      |
| <i>longistylis</i>               | 2    |      |      | <i>Rhincalanus cornutus</i>     | 2    | 2    |      |
| <i>pacificus</i>                 |      |      | 1    | <i>Sapphirina auronitens</i>    | 5    | 1    |      |
| <i>speciosus</i>                 | c    | c    | f    | <i>metallina</i>                |      |      | f    |
| <i>typicus</i>                   |      |      | 3    | <i>nigromaculata</i>            | 5    |      |      |
| <i>Eucalanus attenuatus</i>      | 3    | f    | f    | <i>Scolecithrix danae</i>       |      | c    | f    |
| <i>crassus</i>                   |      | 2    |      | <i>Undinula darwini</i>         |      | c    | c    |

Sta. 100



STATION 101  
13°23'N. 177°27'W. May 7, 1929  
Bottom Depth 5663m.

43 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 26.3 | 26.2 | 25.2 | Density, $\sigma_t P$ .         | 22.7 | 23.0 | 23.7 |
| Salinity, ‰                      | 34.7 | 34.7 | 35.0 | Phosphates, mg/m <sup>3</sup>   | 8    | 8    | 8    |
| Volume of tow, cm <sup>3</sup>   | 32   | 34   | 32   | Length of tow, miles            | 3    | 1.5  | 1.8  |
| Hydrogen ion pH                  | 8.24 | 8.24 | 8.23 |                                 |      |      |      |
| <i>Acartia danae</i>             | c    | c    | c    | <i>Farranula rostrata</i>       | f    | c    | f    |
| <i>Acrocalanus gracilis</i>      | f    | c    | c    | <i>Heterorhabdus papillager</i> |      |      | 2    |
| <i>monachus</i>                  | 3    | c    | 4    | <i>Lubbockia squillimana</i>    |      |      | 2    |
| <i>Candacia bispinosa</i>        |      |      | 3    | <i>Mecynocera clausi</i>        | 1    | 1    | 4    |
| <i>simplex</i>                   |      |      | 4    | <i>Megacalanus longicornis</i>  |      | f    |      |
| <i>truncata</i>                  |      |      | f    | <i>Microcalanus pygmaeus</i>    |      | 5    | f    |
| <i>Canthocalanus pauper</i>      |      |      | f    | <i>Microsetella rosea</i>       |      | f    | f    |
| <i>Centropages calaninus</i>     | 1    | 2    |      | <i>Neocalanus gracilis</i>      |      |      | f    |
| <i>Clausocalanus arcuicornis</i> | 2    | f    | f    | <i>robustior</i>                |      |      | f    |
| <i>Copilia denticulata</i>       | 1    | 2    |      | <i>Oithona attenuata</i>        |      | f    | f    |
| <i>Corycaeus agilis</i>          |      | r    |      | <i>plumifera</i>                |      |      | f    |
| <i>crassiusculus</i>             | f    | c    | c    | <i>similis</i>                  |      |      | c    |
| <i>giesbrechti</i>               |      | 2    |      | <i>spirostris</i>               |      |      | f    |
| <i>longistylis</i>               |      | 5    | f    | <i>Oncaea venusta</i>           | f    | c    |      |
| <i>pacificus</i>                 |      |      | 3    | <i>Paracalanus parvus</i>       | f    | c    | f    |
| <i>speciosus</i>                 | 3    |      | f    | <i>Pontellina plumata</i>       |      |      | 2    |
| <i>Euchaeta marina</i>           | a    | a    |      | <i>Pseudocalanus minutus</i>    | f    | f    | f    |
| <i>Euchirella pulchra</i>        |      | 1    |      | <i>Sapphirina auronitens</i>    | 3    | 2    |      |
| <i>Farranula carinata</i>        | a    | a    |      | <i>Scolecithrix danae</i>       |      | c    | c    |
| <i>gibbula</i>                   | f    | c    | f    | <i>Undinula darwini</i>         | 3    | c    | c    |
| <i>Microcalanus pusillus</i>     |      |      | 2    | <i>Spinocalanus abyssalis</i>   |      |      | 1    |
| <i>Phaenna spinifera</i>         |      |      | 4    |                                 |      |      |      |
|                                  |      |      |      | Sta. 101                        |      |      |      |



STATION 102  
16° 25' N. 171° 59' E. May 9. 1929  
Bottom depth 5245m.

45 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 25.8 | 25.8 | 25.6 | Density, $\sigma_t P$ .         | 23.0 | 23.3 | 23.6 |
| Salinity, ‰                      | 34.9 | 34.9 | 35.0 | Phosphates, mg/m <sup>3</sup>   | 8    | 8    | 8    |
| Volume of tow, cm <sup>3</sup>   | 32   | 48   | 48   | Length of tow, miles            | 2.5  | 2.7  | 2.9  |
| Hydrogen ion pH                  | 8.24 | 8.24 | 8.23 |                                 |      |      |      |
| <i>Acartia danae</i>             | f    | a    | c    | <i>Haloptilus longicornis</i>   |      |      | 2    |
| <i>Aerocalanus gibber</i>        |      | f    |      | <i>Heterorhabdus papillager</i> |      |      | 1    |
| <i>gracilis</i>                  | f    | c    | f    | <i>Labidocera detroncata</i>    | 1    |      |      |
| <i>longicornis</i>               |      | 4    |      | <i>Lucicutia flavicornis</i>    |      |      | 2    |
| <i>monachus</i>                  |      | f    | 2    | <i>Mecynocera clausi</i>        |      | 4    |      |
| <i>Calanus minor</i>             |      |      | c    | <i>Microcalanus pygmaeus</i>    |      | 3    | 1    |
| <i>propinquus</i>                |      |      | 2    | <i>Microsetella norvegica</i>   |      | 2    |      |
| <i>Calocalanus pavo</i>          | 2    | 5    |      | <i>rosea</i>                    | f    | c    | f    |
| <i>Candacia bispinosa</i>        |      |      | 1    | <i>Neocalanus gracilis</i>      |      |      | f    |
| <i>simplex</i>                   |      | f    | 3    | <i>robustior</i>                |      |      | 3    |
| <i>Canthocalanus pauper</i>      |      |      | 1    | <i>Oithona attenuata</i>        | 2    | f    | f    |
| <i>Clausocalanus arcuicornis</i> |      | c    | f    | <i>similis</i>                  | f    | f    | f    |
| <i>Copilia denticulata</i>       |      | 2    |      | <i>Oncaea media</i>             |      | r    |      |
| <i>Corycaeus agilis</i>          |      | r    |      | <i>minuta</i>                   |      | c    | f    |
| <i>crassiusculus</i>             | f    | c    | c    | <i>similis</i>                  |      | r    |      |
| <i>dubius</i>                    | 2    |      |      | <i>venusta</i>                  |      | a    | c    |
| <i>longistylis</i>               |      | f    |      | <i>Paracalanus parvus</i>       | c    | c    | f    |
| <i>pumilus</i>                   |      | f    |      | <i>Pseudocalanus minutus</i>    | 2    | c    | f    |
| <i>speciosus</i>                 | f    | c    |      | <i>Sapphirina auronitens</i>    | 4    | 2    | 3    |
| <i>Euchaeta marina</i>           | 1    | c    | a    | <i>nigromaculata</i>            |      | 2    |      |
| <i>Farranula carinata</i>        | c    | c    | c    | <i>Scolecithrix danae</i>       |      | f    | 2    |
| <i>gibbula</i>                   |      | f    |      | <i>Undinula darwini</i>         |      |      | a    |
| <i>rostrata</i>                  | c    | f    | c    |                                 |      |      |      |
|                                  |      |      |      | 512-102                         |      |      |      |



STATION 103  
 19° 19' N. 166° 23' E. May 11, 1929  
 Bottom depth 3708m.

50 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.              | 0    | 50   | 100  |
|----------------------------------|------|------|------|-------------------------------|------|------|------|
| Temperature, C.                  | 26.0 | 25.8 | 24.7 | Density, T+P.                 | 23.0 | 23.4 | 24.0 |
| Salinity, ‰                      | 34.9 | 35.1 | 35.2 | Phosphates, mg/m <sup>3</sup> | 5    | 5    | 5    |
| Volume of tow, cm <sup>3</sup>   | 36   | 35   | 33   | Length of tow, miles          | 0.5  | 0.4  | 0.5  |
| Hydrogen ion pH                  | 8.25 | 8.25 | 8.25 |                               |      |      |      |
| <i>Acartia danae</i>             |      | c    | f    | <i>Labidocera detruncata</i>  | 1    |      |      |
| <i>Acrocalanus gracilis</i>      | 1    | c    | f    | <i>Mecynocera clausi</i>      |      | 2    |      |
| <i>longicornis</i>               |      | f    |      | <i>Microcalanus pygmaeus</i>  |      | 2    | 3    |
| <i>monachus</i>                  |      | f    | 2    | <i>Microsetella rosea</i>     | 2    | f    | c    |
| <i>Calanus minor</i>             |      |      | c    | <i>Neocalanus gracilis</i>    |      |      | f    |
| <i>Calocalanus pavo</i>          |      | 2    | 2    | <i>robustior</i>              |      |      | 2    |
| <i>Candacia bispinosa</i>        |      | 2    | 4    | <i>Oithona attenuata</i>      |      | c    | f    |
| <i>simplex</i>                   |      | a    | f    | <i>similis</i>                |      | c    | f    |
| <i>Canthocalanus pauper</i>      |      | f    | 4    | <i>spinirostris</i>           |      |      | f    |
| <i>Clausocalanus arcuicornis</i> |      | f    | f    | <i>Oncaea curta</i>           |      |      | 2    |
| <i>Clytemnestra scutellata</i>   |      | 1    |      | <i>media</i>                  |      | f    |      |
| <i>Copilia denticulata</i>       |      | f    |      | <i>minuta</i>                 |      | c    | c    |
| <i>quadrata</i>                  |      | f    | 1    | <i>venusta</i>                |      | a    | c    |
| <i>Corycaeus clausi</i>          |      | 2    |      | <i>Paracalanus parvus</i>     |      | f    | f    |
| <i>crassiusculus</i>             |      | a    | c    | <i>Pontellina plumata</i>     |      |      | 1    |
| <i>robustus</i>                  |      |      | 1    | <i>Pseudocalanus minutus</i>  | 1    | f    | f    |
| <i>speciosus</i>                 |      | f    | c    | <i>Sapphirina auronitens</i>  |      | f    | 3    |
| <i>Euchaeta marina</i>           |      | 1    | a    | <i>metallina</i>              |      | 2    |      |
| <i>Farranula carinata</i>        | f    | c    | c    | <i>nigromaculata</i>          |      | 4    | 2    |
| <i>gibbula</i>                   | f    |      | f    | <i>Scolecithrix danae</i>     |      |      | 1    |
| <i>rostrata</i>                  | f    | f    | f    | <i>Calocalanus plumulosus</i> |      | f    |      |
| <i>Haloptilus longicornis</i>    |      |      | 3    | <i>Undinula darwini</i>       |      | f    | c    |
| <i>Clausocalanus furcatus</i>    | 3    |      |      | <i>Microcalanus pusillus</i>  | r    |      | r    |
| <i>Candacia longimana</i>        | 3    |      | 2    | <i>Pachosina piona</i>        | 2    |      | 1    |
| <i>Heterorhabdus spinifrons</i>  |      |      | 7    | <i>Sapphirina angusta</i>     | 3    |      |      |

Sta-103



STATION 104  
20°12'N. 161°19'E. May 13, 1929  
Bottom depth 4741m.

58 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.               | 0    | 50   | 100  |
|----------------------------------|------|------|------|--------------------------------|------|------|------|
| Temperature, C.                  | 26.1 | 25.8 | 25.3 | Density, $\sigma_t$ P.         | 23.1 | 23.5 | 23.9 |
| Salinity, ‰                      | 35.1 | 35.2 | 35.3 | Phosphates, mg/m <sup>3</sup>  | 7    | 7    | 7    |
| Volume of tow, cm <sup>3</sup>   | 64   | 64   | 48   | Length of tow, miles           | 1.4  | 1.3  | 1.4  |
| Hydrogen ion pH                  | 8.24 | 8.24 | 8.21 |                                |      |      |      |
| <i>Acartia danae</i>             | f    |      | c    | <i>Labidocera detruncata</i>   | c    |      |      |
| <i>Acrocalanus gibber</i>        |      | 2    |      | <i>Lucicutia clausi</i>        |      |      | c    |
| <i>gracilis</i>                  | a    | f    | c    | <i>flavicornis</i>             |      |      | a    |
| <i>Calocalanus pavo</i>          | 2    |      |      | <i>Macrosetella gracilis</i>   | 1    |      |      |
| <i>Candacia bispinosa</i>        | f    |      | f    | <i>Mecynocera clausi</i>       |      |      | 4    |
| <i>norvegica</i>                 |      |      | f    | <i>Megacalanus longicornis</i> |      | 1    |      |
| <i>simplex</i>                   |      | f    |      | <i>Microcalanus pusillus</i>   |      | 2    |      |
| <i>truncata</i>                  | f    | f    | f    | <i>pygmaeus</i>                | 2    | 2    |      |
| <i>varicans</i>                  |      | 1    |      | <i>Microsetella norvegica</i>  | 2    |      |      |
| <i>Centropages calaninus</i>     | f    | f    |      | <i>rosea</i>                   |      | c    | f    |
| <i>Clausocalanus arcuicornis</i> | f    | f    | f    | <i>Neocalanus gracilis</i>     |      | c    |      |
| <i>Copilia denticulata</i>       | f    | c    | f    | <i>robustior</i>               |      | c    | f    |
| <i>quadrata</i>                  |      | 5    | 5    | <i>Oithona attenuata</i>       |      | f    | f    |
| <i>Corycaeus catus</i>           |      | f    |      | <i>similis</i>                 |      | r    | f    |
| <i>crassiusculus</i>             | c    | c    | c    | <i>spinirostris</i>            |      | 2    |      |
| <i>furcifer</i>                  |      | 2    |      | <i>Oncaea media</i>            | r    |      |      |
| <i>longistylis</i>               |      |      | f    | <i>minuta</i>                  |      | c    | c    |
| <i>pumilus</i>                   | f    |      |      | <i>similis</i>                 |      | f    |      |
| <i>speciosus</i>                 |      | f    | c    | <i>venusta</i>                 | f    | c    | c    |
| <i>typicus</i>                   |      |      | r    | <i>Paracalanus parvus</i>      | f    | f    | c    |
| <i>Eucalanus attenuatus</i>      |      | 2    |      | <i>Pleuromamma gracilis</i>    |      |      | 1    |
| <i>Euchaeta marina</i>           |      | c    | c    | <i>Pontellina plumata</i>      | 1    |      |      |
| <i>Farranula carinata</i>        | a    | c    | a    | <i>Pseudocalanus minutus</i>   | f    | f    | c    |
| <i>gibbula</i>                   | f    |      |      | <i>Sapphirina angusta</i>      | 1    |      |      |
| <i>gracilis</i>                  | r    |      |      | <i>auronitens</i>              | c    | f    |      |
| <i>rostrata</i>                  | a    | f    | f    | <i>nigromaculata</i>           |      |      | 4    |
| <i>Haloptilus acutifrons</i>     |      |      | 1    | <i>Scolecithrix danae</i>      |      | f    | f    |
| <i>longicornis</i>               |      |      | f    | <i>Calocalanus plumulosus</i>  |      | f    | 2    |
| <i>Heterorhabdus papillager</i>  |      |      | 3    | <i>Undinula darwini</i>        |      | c    | c    |

Sta. 104



STATION 105  
18°43'N. 156°16'E. May 15, 1929  
Bottom depth 5576m.

54 Species

| Depth of tow, m.               | 0    | 50   | 100  | Depth of tow, m.              | 0    | 50   | 100  |
|--------------------------------|------|------|------|-------------------------------|------|------|------|
| Temperature, C.                | 26.9 | 26.8 | 25.2 | Density, $\sigma_t$ P.        | 22.7 | 22.9 | 23.8 |
| Salinity, ‰                    | 34.9 | 34.9 | 35.1 | Phosphates, mg/m <sup>3</sup> | 5    | 5    | 5    |
| Volume of tow, cm <sup>3</sup> | 32   | 35   | 33   | Length of tow, miles          | 2    | 2    | 2.1  |
| Hydrogen ion pH                | 8.23 | 8.23 | 8.23 |                               |      |      |      |
| <i>Acartia danae</i>           | 2    | c    | c    | <i>Labidocera detruncata</i>  | 1    |      |      |
| <i>Acrocalanus gibber</i>      |      | f    |      | <i>Lubbockia squillimana</i>  |      | 3    |      |
| <i>gracilis</i>                | f    | f    | c    | <i>Lucicutia clausi</i>       |      |      | 2    |
| <i>longicornis</i>             |      | 5    | 2    | <i>flavicornis</i>            | 1    |      | 3    |
| <i>monachus</i>                |      | 2    | 2    | <i>Macrosetella gracilis</i>  |      | 1    |      |
| <i>Calanus minor</i>           |      |      | f    | <i>Microsetella norvegica</i> |      | 3    |      |
| <i>Calocalanus pavo</i>        |      | 2    |      | <i>rosea</i>                  |      | f    | f    |
| <i>Candacia bispinosa</i>      |      | 4    |      | <i>Neocalanus gracilis</i>    |      |      | f    |
| <i>norvegica</i>               |      | 2    |      | <i>robustior</i>              |      |      | f    |
| <i>truncata</i>                |      | 4    | f    | <i>tenuicornis</i>            |      |      | 2    |
| <i>varicans</i>                |      | 2    | 1    | <i>Oithona attenuata</i>      |      | f    | f    |
| <i>Centropages calaninus</i>   | 1    |      |      | <i>plumifera</i>              |      |      | 3    |
| <i>Copilia denticulata</i>     | 1    | c    | f    | <i>similis</i>                |      |      | f    |
| <i>quadrata</i>                |      | 2    | 5    | <i>Oncaea conifera</i>        |      | 3    |      |
| <i>Corycaeus crassiusculus</i> | c    | c    | f    | <i>media</i>                  |      | f    | f    |
| <i>limbatus</i>                |      |      | r    | <i>minuta</i>                 |      | c    | c    |
| <i>pumilus</i>                 |      | r    |      | <i>venusta</i>                |      | c    | c    |
| <i>speciosus</i>               | f    | a    | c    | <i>Paracalanus parvus</i>     | f    | f    | f    |
| <i>typicus</i>                 |      | f    |      | <i>Pontellina plumata</i>     |      | 1    | 2    |
| <i>Euchaeta marina</i>         |      |      | a    | <i>Pseudocalanus minutus</i>  |      |      | c    |
| <i>Farranula carinata</i>      | a    | f    | c    | <i>Sapphirina auronitens</i>  | 4    | 3    | 3    |
| <i>curta</i>                   | r    |      |      | <i>nigromaculata</i>          |      | 3    |      |
| <i>gibbula</i>                 | c    |      |      | <i>Scolecithrix danae</i>     |      | 4    | 3    |
| <i>rostrata</i>                | a    |      | c    | <i>Undinula darwini</i>       |      |      | f    |
| <i>Haloptilus longicornis</i>  |      |      | 2    | <i>Microcalanus pygmaeus</i>  |      |      | 2    |
| <i>Canthocalanus pauper</i>    |      |      | 1    | <i>Phaenna spinifera</i>      |      |      | 1    |
| <i>Microcalanus pusillus</i>   |      |      | 1    | <i>Sapphirina stellata</i>    |      |      | 1    |

Sta-105



STATION 106  
 16° 14' N. 151° 04' E. May 17, 1929  
 Bottom depth 5925m.

67 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 27.2 | 26.9 | 25.5 | Density, $\sigma_t$             | 22.6 | 22.9 | 23.7 |
| Salinity, ‰                      | 34.9 | 34.9 | 35.0 | Phosphates, mg/m <sup>3</sup>   | 5    | 5    | 5    |
| Volume of tow, cm <sup>3</sup>   | 64   | 64   | 48   | Length of tow, miles            | 0.5  | 0.5  | 0.5  |
| Hydrogen ion pH                  | 8.23 | 8.23 | 8.23 |                                 |      |      |      |
| <i>Acartia clanae</i>            | c    | c    | f    | <i>Haloptilus longicornis</i>   |      |      | 1    |
| <i>Acrocalanus gibber</i>        | 2    |      |      | <i>Heterorhabdus papillager</i> |      | 2    | 1    |
| <i>gracilis</i>                  | a    | c    | f    | <i>Labidocera detruncata</i>    | 1    |      |      |
| <i>longicornis</i>               | f    | f    |      | <i>Lubbockia squillimana</i>    |      | 1    |      |
| <i>monachus</i>                  |      | 2    | 2    | <i>Lucicutia clausi</i>         |      |      | 2    |
| <i>Calanus minor</i>             |      | f    |      | <i>Mecynocera clausi</i>        |      | 2    |      |
| <i>Calocalanus pavo</i>          | 2    |      | 2    | <i>Megacalanus longicornis</i>  |      | 1    | 2    |
| <i>styliremis</i>                |      | 1    |      | <i>Microcalanus pusillus</i>    |      |      | 2    |
| <i>Candacia bispinosa</i>        |      | 3    | 3    | <i>pygmaeus</i>                 |      |      | 2    |
| <i>simplex</i>                   |      |      | f    | <i>Microsetella rosea</i>       | f    | c    | f    |
| <i>truncata</i>                  |      | f    | f    | <i>Miracia efferata</i>         |      | 1    | 1    |
| <i>varicans</i>                  |      |      | f    | <i>Phaenna spinifera</i>        |      |      | 2    |
| <i>Centropages calaninus</i>     | 1    | f    |      | <i>Neocalanus gracilis</i>      |      | f    | c    |
| <i>Clausocalanus arcuicornis</i> | 2    |      | f    | <i>robustior</i>                |      | 2    | f    |
| <i>Clytemnestra scutellata</i>   |      | 1    |      | <i>Oithona attenuata</i>        |      | f    | 3    |
| <i>Copilia denticulata</i>       | 2    |      | f    | <i>plumifera</i>                |      |      | 2    |
| <i>Corycaeus clausi</i>          | r    |      |      | <i>similis</i>                  |      |      | f    |
| <i>crassiusculus</i>             | f    | c    | c    | <i>spinirostris</i>             |      | f    | f    |
| <i>dubius</i>                    | 2    |      |      | <i>Oncaea minuta</i>            | f    |      |      |
| <i>ovalis</i>                    |      |      | 3    | <i>venusta</i>                  | f    | c    | c    |
| <i>pacificus</i>                 |      | c    |      | <i>Paracalanus parvus</i>       | f    |      | f    |

Sta-106



STATION 106  
 16° 14' N. 151° 04' E. May 17, 1929  
 Bottom depth 5925 m.

67 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 27.2 | 26.9 | 25.5 | Density, $\sigma_t$             | 22.6 | 22.9 | 23.7 |
| Salinity, ‰                      | 34.9 | 34.9 | 35.0 | Phosphates, mg/m <sup>3</sup>   | 5    | 5    | 5    |
| Volume of tow, cm <sup>3</sup>   | 64   | 64   | 48   | Length of tow, miles            | 0.5  | 0.5  | 0.5  |
| Hydrogen ion pH                  | 8.23 | 8.23 | 8.23 |                                 |      |      |      |
| <i>Acartia clanae</i>            | c    | c    | f    | <i>Haloptilus longicornis</i>   |      |      | 1    |
| <i>Acrocalanus gibber</i>        | 2    |      |      | <i>Heterorhabdus papillager</i> |      | 2    | 1    |
| <i>gracilis</i>                  | a    | c    | f    | <i>Labidocera detruncata</i>    | 1    |      |      |
| <i>longicornis</i>               | f    | f    |      | <i>Lubbockia squillimana</i>    |      | 1    |      |
| <i>monachus</i>                  |      | 2    | 2    | <i>Lucicutia clausi</i>         |      |      | 2    |
| <i>Calanus minor</i>             |      | f    |      | <i>Mecynocera clausi</i>        |      | 2    |      |
| <i>Calocalanus pavo</i>          | 2    |      | 2    | <i>Megacalanus longicornis</i>  |      | 1    | 2    |
| <i>styliremis</i>                |      | 1    |      | <i>Microcalanus pusillus</i>    |      |      | 2    |
| <i>Candacia bispinosa</i>        |      | 3    | 3    | <i>pygmaeus</i>                 |      |      | 2    |
| <i>simplex</i>                   |      |      | f    | <i>Microsetella rosea</i>       | f    | c    | f    |
| <i>truncata</i>                  |      | f    | f    | <i>Miracia efferata</i>         |      | 1    | 1    |
| <i>varicans</i>                  |      |      | f    | <i>Phaenna spinifera</i>        |      |      | 2    |
| <i>Centropages calaninus</i>     | 1    | f    |      | <i>Neocalanus gracilis</i>      |      | f    | c    |
| <i>Clausocalanus arcuicornis</i> | 2    |      | f    | <i>robustior</i>                |      | 2    | f    |
| <i>Clytemnestra scutellata</i>   |      | 1    |      | <i>Oithona attenuata</i>        |      | f    | 3    |
| <i>Copilia denticulata</i>       | 2    |      | f    | <i>plumifera</i>                |      |      | 2    |
| <i>Corycaeus clausi</i>          | r    |      |      | <i>similis</i>                  |      |      | f    |
| <i>crassiusculus</i>             | f    | c    | c    | <i>spinirostris</i>             |      | f    | f    |
| <i>dubius</i>                    | 2    |      |      | <i>Oncaea minuta</i>            | f    |      |      |
| <i>ovalis</i>                    |      |      | 3    | <i>venusta</i>                  | f    | c    | c    |
| <i>pacificus</i>                 |      | c    |      | <i>Paracalanus parvus</i>       | f    |      | f    |
| <i>speciosus</i>                 | f    | c    | c    | <i>Pontella tenuiremis</i>      | 1    |      |      |
| <i>Eucalanus attenuatus</i>      | 1    | f    | 4    | <i>Pontellina plumata</i>       | 4    | 4    |      |
| <i>elongatus</i>                 |      | f    |      | <i>Pseudocalanus minutus</i>    | f    | f    | c    |
| <i>Euchaeta acuta</i>            |      |      | 2    | <i>Sapphirina auronitens</i>    | f    |      | 2    |
| <i>marina</i>                    | 1    | c    | c    | <i>metallina</i>                |      |      | 1    |
| <i>Farranula carinata</i>        | a    | a    | a    | <i>nigromaculata</i>            |      |      | 1    |
| <i>gibbula</i>                   | f    | f    |      | <i>Scolecithrix danae</i>       |      | f    | f    |
| <i>gracilis</i>                  | 3    |      |      | <i>Calocalanus plumulosus</i>   |      | 2    | 2    |
| <i>rostrata</i>                  | a    |      | c    | <i>Undinula darwini</i>         |      |      | f    |
| <i>Candacia longimana</i>        |      | 2    |      | <i>Pachosina piona</i>          |      |      | 3    |
| <i>Canthocalanus pauper</i>      | 5    |      |      | <i>Paracalanus aculeatus</i>    | 2    |      |      |
| <i>Haloptilus plumosus</i>       |      |      | 2    | <i>Sapphirina opalina</i>       |      | 2    |      |
| <i>spiniceps</i>                 |      |      | 1    |                                 |      |      |      |



STATION 107  
14° 05' N. 146° 06' E. May 19, 1929  
Bottom depth 4920m.

60 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 28.4 | 26.7 | 25.2 | Density, $\sigma_t$             | 21.9 | 22.2 | 23.1 |
| Salinity, ‰                      | 35.0 | 34.9 | 34.9 | Phosphates, mg/m <sup>3</sup>   | 4    | 4    | 4    |
| Volume of tow, cm <sup>3</sup>   | 32   | 32   | 32   | Length of tow, miles            | 1.1  | 0.5  | 0.5  |
| Hydrogen ion pH                  | 8.23 | 8.23 | 8.23 |                                 |      |      |      |
| <i>Acartia danae</i>             |      | c    |      | <i>Farranula gracilis</i>       |      |      | 3    |
| <i>Acrocalanus gibber</i>        |      | 2    |      | <i>rostrata</i>                 | a    |      | f    |
| <i>gracilis</i>                  | f    | f    | c    | <i>Haloptilus plumosus</i>      |      |      | 3    |
| <i>longicornis</i>               |      | 5    | f    | <i>spiniceps</i>                |      |      | 5    |
| <i>monachus</i>                  | 2    | f    |      | <i>Heterorhabdus papillager</i> |      |      | 3    |
| <i>Calanus minor</i>             |      |      | f    | <i>Lubbockia squillimana</i>    |      |      | 3    |
| <i>Calocalanus pavo</i>          | 2    | f    | f    | <i>Lucicutia clausi</i>         |      |      | c    |
| <i>Candacia bispinosa</i>        |      | 2    | f    | <i>flavicornis</i>              |      |      | c    |
| <i>simplex</i>                   |      | f    |      | <i>Mecynocera clausi</i>        |      | 3    | 4    |
| <i>truncata</i>                  |      | c    | c    | <i>Microcalanus pusillus</i>    |      | 1    | 2    |
| <i>varicans</i>                  |      |      | 4    | <i>pygmaeus</i>                 |      | 2    |      |
| <i>Canthocalanus pauper</i>      |      |      | 3    | <i>Microsetella rosea</i>       | f    | f    | f    |
| <i>Centropages calaninus</i>     | 1    | f    | f    | <i>Neocalanus gracilis</i>      |      |      | f    |
| <i>Clausocalanus arcuicornis</i> |      |      | f    | <i>robustior</i>                |      |      | f    |
| <i>Clytemnestra scutellata</i>   |      | 1    |      | <i>Oithona attenuata</i>        |      | f    | f    |
| <i>Copilia denticulata</i>       |      | 5    |      | <i>similis</i>                  |      | f    | c    |
| <i>quadrata</i>                  |      | 4    | 2    | <i>spinirostris</i>             |      |      | f    |
| <i>vitrea</i>                    |      | 2    |      | <i>Oncaea curta</i>             |      | 1    |      |
| <i>Corycaeus agilis</i>          | r    |      |      | <i>media</i>                    | 2    |      |      |
| <i>crassiusculus</i>             | c    | a    | c    | <i>minuta</i>                   |      | c    | f    |
| <i>flaccus</i>                   |      | 2    |      | <i>notopa</i>                   |      |      | 2    |
| <i>lautus</i>                    |      | 1    |      | <i>venusta</i>                  |      | c    | c    |

Sta. 107-



STATION 107  
14° 05' N. 146° 06' E. May 19, 1929  
Bottom depth 4920m.

60 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 28.4 | 26.7 | 25.2 | Density, $\sigma_t$ P.          | 21.9 | 22.2 | 23.1 |
| Salinity, ‰                      | 35.0 | 34.9 | 34.9 | Phosphates, mg/m <sup>3</sup>   | 4    | 4    | 4    |
| Volume of tow, cm <sup>3</sup>   | 32   | 32   | 32   | Length of tow, miles            | 1.1  | 0.5  | 0.5  |
| Hydrogen ion pH                  | 8.23 | 8.23 | 8.23 |                                 |      |      |      |
| <i>Acartia danae</i>             |      | c    |      | <i>Farranula gracilis</i>       |      |      | 3    |
| <i>Acrocalanus gibber</i>        |      | 2    |      | <i>rostrata</i>                 | a    |      | f    |
| <i>gracilis</i>                  | f    | f    | c    | <i>Haloptilus plumosus</i>      |      |      | 3    |
| <i>longicornis</i>               |      | 5    | f    | <i>spiniceps</i>                |      |      | 5    |
| <i>monachus</i>                  | 2    | f    |      | <i>Heterorhabdus papillager</i> |      |      | 3    |
| <i>Calanus minor</i>             |      |      | f    | <i>Lubbockia squillimana</i>    |      |      | 3    |
| <i>Calocalanus pavo</i>          | 2    | f    | f    | <i>Lucicutia clausi</i>         |      |      | c    |
| <i>Candacia bispinosa</i>        |      | 2    | f    | <i>flavicornis</i>              |      |      | c    |
| <i>simplex</i>                   |      | f    |      | <i>Mecynocera clausi</i>        |      | 3    | 4    |
| <i>truncata</i>                  |      | c    | c    | <i>Microcalanus pusillus</i>    |      | 1    | 2    |
| <i>varicans</i>                  |      |      | 4    | <i>pygmaeus</i>                 |      | 2    |      |
| <i>Canthocalanus pauper</i>      |      |      | 3    | <i>Microsetella rosea</i>       | f    | f    | f    |
| <i>Centropages calaninus</i>     | 1    | f    | f    | <i>Neocalanus gracilis</i>      |      |      | f    |
| <i>Clausocalanus arcuicornis</i> |      |      | f    | <i>robustior</i>                |      |      | f    |
| <i>Clytemnestra scutellata</i>   |      | 1    |      | <i>Oithona attenuata</i>        |      | f    | f    |
| <i>Copilia denticulata</i>       |      | 5    |      | <i>similis</i>                  |      | f    | c    |
| <i>quadrata</i>                  |      | 4    | 2    | <i>spinirostris</i>             |      |      | f    |
| <i>vitrea</i>                    |      | 2    |      | <i>Oncaea curta</i>             |      | 1    |      |
| <i>Corycaeus agilis</i>          | r    |      |      | <i>media</i>                    | 2    |      |      |
| <i>crassiusculus</i>             | c    | a    | c    | <i>minuta</i>                   |      | c    | f    |
| <i>flaccus</i>                   |      | 2    |      | <i>notopa</i>                   |      |      | 2    |
| <i>lautus</i>                    |      | 1    |      | <i>venusta</i>                  |      | c    | c    |
| <i>longistylis</i>               | 1    |      |      | <i>Paracalanus parvus</i>       | f    | f    | c    |
| <i>pacificus</i>                 |      | 1    |      | <i>Pontellina plumata</i>       |      |      | 2    |
| <i>speciosus</i>                 | f    | c    |      | <i>Pseudocalanus minutus</i>    |      | f    | f    |
| <i>Euchaeta acuta</i>            |      |      | f    | <i>Sapphirina auronitens</i>    |      | 2    |      |
| <i>marina</i>                    | 1    | 2    | c    | <i>nigromaculata</i>            |      | 4    | 2    |
| <i>Euchirella brevis</i>         |      | 1    | 1    | <i>Scolecithrix danae</i>       |      | 1    | f    |
| <i>Farranula carinata</i>        | a    | a    | c    | <i>Calocalanus plumulosus</i>   |      | 2    | 4    |
| <i>gibbula</i>                   | f    |      | f    | <i>Undinula darwini</i>         |      |      | c    |
|                                  |      |      |      | <i>Scaphocalanus elongatus</i>  |      |      | 1    |



HARBOR at GUAM  
 14° 00' N. 148° 00' E. May 22, 1929  
 Surface only

|                        |   |                    |   |
|------------------------|---|--------------------|---|
| Acrocalanus gracilis   | 2 | Oithona similis    | 2 |
| Farranula gibbula      | f | Oncaea minuta      | r |
| rostrata               | r | venusta            | 2 |
| Labidocera detruncata  | f | Paracalanus parvus | a |
| Microsetella rosea     | 1 | Temora discaudata  | 1 |
| Neocalanus tenuicornis | 2 | Undinula darwini   | f |
| Oithona attenuata      | 1 | vulgaris           | a |



STATION 108  
18°26'N. 144°01'E. May 27, 1929  
Bottom depth 3573 m.

57 Species

| Depth of tow, m.               | 0    | 50   | 100  | Depth of tow, m.              | 0    | 50   | 100  |
|--------------------------------|------|------|------|-------------------------------|------|------|------|
| Temperature, C.                | 28.4 | 26.7 | 25.2 | Density, $\sigma_t$           | 22.2 | 23.0 | 23.7 |
| Salinity, ‰                    | 35.0 | 34.9 | 34.9 | Phosphates, mg/m <sup>3</sup> | 4    | 4    | 4    |
| Volume of tow, cm <sup>3</sup> | 32   | 32   | 32   | Length of tow, miles          | 0.8  | 1.0  | 1.1  |
| Hydrogen ion pH                | 8.25 | 8.25 | 8.23 |                               |      |      |      |
| Acrocalanus gibber             |      |      | 2    | Haloptilus longicornis        |      |      | 4    |
| gracilis                       |      | f    |      | Heterorhabdus papillager      |      |      | 5    |
| Aetideus armatus               |      |      | 2    | Lubbockia squillimana         |      |      | 2    |
| Calanus minor                  | 1    |      | f    | Lucicutia clausi              |      |      | c    |
| Calocalanus pavo               |      | 5    |      | flavicornis                   |      |      | c    |
| Candacia bispinosa             |      | 5    | f    | Macrosetella gracilis         | 2    | 2    |      |
| simplex                        |      | 4    | 4    | Mecynocera clausi             |      |      | 3    |
| truncata                       |      | c    | f    | Megacalanus longicornis       |      |      | 1    |
| varicans                       |      |      | 2    | Microcalanus pygmaeus         | 1    |      | 1    |
| Copilia denticulata            | 1    |      | f    | Microsetella rosea            | 2    |      | f    |
| quadrata                       |      | 5    | f    | Neocalanus gracilis           |      | f    | f    |
| recta                          |      |      | 2    | robustior                     |      | 2    | f    |
| vitrea                         |      | 2    | f    | Oithona attenuata             |      | 4    | f    |
| Corycaeus agilis               |      | 2    |      | plumifera                     |      | 2    |      |
| catus                          | 2    |      |      | similis                       |      | f    | f    |
| crassiusculus                  | 3    | c    | c    | spinirostris                  |      |      | f    |
| furcifer                       |      | 3    |      | Oncaea conifera               |      |      | 3    |
| limbatus                       |      |      | r    | media                         |      | f    |      |
| ovalis                         | 1    |      |      | minuta                        | 3    |      | c    |
| speciosus                      | 2    | c    | c    | venusta                       |      | c    | c    |
| Eucalanus attenuatus           |      | 3    | 3    | Paracalanus parvus            | 2    | f    | f    |
| Euchaeta marina                |      | 3    | f    | Pontellina plumata            |      |      | 1    |
| Farranula carinata             | f    |      | c    | Pseudocalanus minutus         | 3    | f    |      |
| concinna                       | 2    |      |      | Sapphirina nigromaculata      |      |      | 2    |
| gibbula                        |      | 1    | f    | Scolecithrix danae            |      | 1    |      |
| rostrata                       | f    |      | f    | Undinula darwini              |      | f    | f    |
| Candacia longimana             |      |      | 2    | Phaenna spinifera             |      | 1    |      |
| Canthocalanus pauper           | 3    |      |      | Sapphirina stellata           |      |      | 2    |
| Microcalanus pusillus          |      |      | 3    | Sta. 108                      |      |      |      |



Over Fleming Deep

90 Species

## STATION 109

23° 22' N. 144° 08' E May 29, 1929

Bottom depth 5252 m.

| Depth of tow, m.               | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|--------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                | 27.4 | 23.1 | 19.4 | Density, $\sigma_t$             | 22.6 | 24.1 | 25.2 |
| Salinity, ‰                    | 35.0 | 34.9 | 34.8 | Phosphates, mg/m <sup>3</sup>   | 3    | 3    | 5    |
| Volume of tow, cm <sup>3</sup> | 32   | 64   | 128  | Length of tow, miles            | 1.4  | 1.5  | 1.5  |
| Hydrogen ion pH                | 8.23 | 8.23 | 8.22 |                                 |      |      |      |
| <i>Acartia danae</i>           |      | c    | a    | <i>Haloptilus longicornis</i>   |      |      | f    |
| <i>Acrocalanus gibber</i>      | f    |      | 5    | <i>Heterorhabdus papillager</i> |      |      | f    |
| <i>gracilis</i>                | f    | f    | c    | <i>spinifrons</i>               |      |      | 2    |
| <i>longicornis</i>             | r    | f    |      | <i>Labidocera detruncata</i>    | f    |      |      |
| <i>Aetideus armatus</i>        |      |      | 3    | <i>Lubbockia squillimana</i>    |      | 3    | c    |
| <i>giesbrechti</i>             |      | 1    |      | <i>Lucicutia clausi</i>         |      |      | c    |
| <i>Calanus minor</i>           |      | f    | f    | <i>flavicornis</i>              |      |      | c    |
| <i>Calocalanus pavo</i>        |      | 4    | f    | <i>longicornis</i>              |      | 2    |      |
| <i>styliremis</i>              |      |      | 2    | <i>Macrosetella gracilis</i>    | f    | 3    | 2    |
| <i>Candacia bispinosa</i>      |      | f    | 2    | <i>oculata</i>                  |      |      | 1    |

Sta. 109



## STATION 109

90 Species

23° 22' N. 144° 08' E May 29, 1929

Bottom depth 5252 m.

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                     | 0    | 50   | 100  |
|----------------------------------|------|------|------|--------------------------------------|------|------|------|
| Temperature, C.                  | 27.4 | 23.1 | 19.4 | Density, $\sigma_t$ P.               | 22.6 | 24.1 | 25.2 |
| Salinity, ‰                      | 35.0 | 34.9 | 34.8 | Phosphates, mg/m <sup>3</sup>        | 3    | 3    | 5    |
| Volume of tow, cm <sup>3</sup>   | 32   | 64   | 128  | Length of tow, miles                 | 1.4  | 1.5  | 1.5  |
| Hydrogen ion pH                  | 8.23 | 8.23 | 8.22 |                                      |      |      |      |
| <i>Acartia danae</i>             |      | c    | a    | <i>Haloptilus longicornis</i>        |      |      | f    |
| <i>Acrocalanus gibber</i>        | f    |      | 5    | <i>Heterorhabdus papillager</i>      |      |      | f    |
| <i>gracilis</i>                  | f    | f    | c    | <i>spinifrons</i>                    |      |      | 2    |
| <i>longicornis</i>               | r    | f    |      | <i>Labidocera detruncata</i>         | f    |      |      |
| <i>Aetideus armatus</i>          |      |      | 3    | <i>Lubbockia squillimana</i>         |      | 3    | c    |
| <i>giesbrechti</i>               |      | 1    |      | <i>Lucicutia clausi</i>              |      |      | c    |
| <i>Calanus minor</i>             |      | f    | f    | <i>flavicornis</i>                   |      |      | c    |
| <i>Calocalanus pavo</i>          |      | 4    | f    | <i>longicornis</i>                   |      | 2    |      |
| <i>styliremis</i>                |      |      | 2    | <i>Macrosetella gracilis</i>         | f    | 3    | 2    |
| <i>Candacia bispinosa</i>        |      | f    | 2    | <i>oculata</i>                       |      |      | 1    |
| <i>simplex</i>                   |      | f    | f    | <i>Mecynocera clausi</i>             |      | 5    | c    |
| <i>truncata</i>                  |      | c    | f    | <i>Microcalanus pusillus</i>         |      |      | 4    |
| <i>varicans</i>                  |      | 2    |      | <i>pygmaeus</i>                      |      | f    | 4    |
| <i>Canthocalanus pauper</i>      |      |      | 4    | <i>Microsetella rosea</i>            |      | f    | c    |
| <i>Centropages calaninus</i>     | 2    | 2    |      | <i>Monstrilla inserta</i>            |      | 2    |      |
| <i>elongatus</i>                 |      | 2    |      | <i>Neocalanus gracilis</i>           |      | a    | a    |
| <i>Clausocalanus arcuicornis</i> | 2    | f    | c    | <i>robustior</i>                     |      | f    | c    |
| <i>furcatus</i>                  |      | r    |      | <i>tenuicornis</i>                   |      |      | c    |
| <i>Clytemnestra scutellata</i>   |      |      | 4    | <i>Oithona attenuata</i>             |      | f    |      |
| <i>Copilia denticulata</i>       |      | f    |      | <i>plumifera</i>                     |      | 2    | f    |
| <i>mirabilis</i>                 |      | 3    |      | <i>similis</i>                       |      | f    | c    |
| <i>quadrata</i>                  |      | 2    | f    | <i>spinirostris</i>                  |      | f    | f    |
| <i>recta</i>                     |      | 4    | 5    | <i>Oithonina nana</i>                |      |      | 2    |
| <i>vitrea</i>                    |      |      | 2    | <i>Oncaea conifera</i>               |      | 3    |      |
| <i>Corycaeus agilis</i>          |      | r    |      | <i>curta</i>                         |      | r    |      |
| <i>crassiusculus</i>             | f    | a    | c    | <i>media</i>                         | r    |      |      |
| <i>dubius</i>                    |      | r    |      | <i>minuta</i>                        | f    | a    | a    |
| <i>flaccus</i>                   |      | 1    |      | <i>similis</i>                       | r    |      |      |
| <i>lautus</i>                    |      |      | r    | <i>tenella</i>                       |      |      | r    |
| <i>longistylis</i>               |      |      | f    | <i>venusta</i>                       | c    | a    | a    |
| <i>pumilus</i>                   | r    |      |      | <i>Paracalanus parvus</i>            |      | c    | c    |
| <i>speciosus</i>                 |      | c    | c    | <i>Pontellina plumata</i>            |      | 1    |      |
| <i>typicus</i>                   |      | r    |      | <i>Paracalanus pygmaeus</i>          |      |      | f    |
| <i>Eucalanus attenuatus</i>      |      | f    | f    | <i>Pseudocalanus minutus</i>         |      | c    | c    |
| <i>elongatus</i>                 |      | 2    |      | <i>Sapphirina auronitens</i>         | 1    |      | 5    |
| <i>Euchaeta acuta</i>            |      | 2    |      | <i>metallina</i>                     |      |      | f    |
| <i>marina</i>                    |      | a    | f    | <i>nigromaculata</i>                 |      | 3    |      |
| <i>Euchirella brevis</i>         |      | 2    | 1    | <i>cella</i>                         |      |      |      |
| <i>Farranula carinata</i>        | a    | c    |      | <i>Scolecithrix bradyi</i>           |      |      | 4    |
| <i>gibbula</i>                   | c    |      |      | <i>Scolecithrix danae</i>            |      | f    |      |
| <i>gracilis</i>                  | f    |      |      | <i>Calocalanus plumulosus</i>        |      | 2    | 3    |
| <i>rostrata</i>                  | a    | f    | f    | <i>Undinula caroli</i>               |      |      | 2    |
| <i>Pachosina piona</i>           | 3    |      |      | <i>darwini</i>                       |      | c    | c    |
| <i>Phaenna spinifera</i>         |      | f    |      | <i>Pontella lobiancoi</i> (?) juv. ♂ | 2    |      |      |
| <i>Pleuromamma abdominalis</i>   |      |      | 1    | <i>Sapphirina angusta</i>            |      | 2    |      |
|                                  |      |      |      | <i>stellata</i>                      |      |      | 3    |



STATION 110  
26°20'N. 144°24'E. May 31, 1929  
Bottom Depth 3036 m.

55 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0          | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------------|------|------|
| Temperature, C.                  | 23.8 | 18.3 | 17.9 | Density, $\sigma_t P$ .         | 23.4       | 25.2 | 25.5 |
| Salinity, ‰                      | 34.7 | 34.7 | 34.7 | Phosphates, mg/m <sup>3</sup>   | 5          | 6    | 11   |
| Volume of tow, cm <sup>3</sup>   | 48   | 48   | 48   | Length of tow, miles            | 0.5        | 0.5  | 0.5  |
| Hydrogen ion pH                  | 8.18 | 8.18 | 8.14 |                                 |            |      |      |
| <i>Acartia danae</i>             |      | c    | f    | <i>Lucicutia clausi</i>         |            | 4    | c    |
| <i>Acrocalanus gracilis</i>      | a    | c    | c    | <i>flavicornis</i>              |            | c    | a    |
| <i>Aetideus armatus</i>          |      |      | 4    | <i>Macrosetella gracilis</i>    | 5          |      |      |
| <i>Calanus minor</i>             |      | c    | c    | <i>Mecynocera clausi</i>        |            | r    | f    |
| <i>Candacia bispinosa</i>        |      | 1    |      | <i>Megacalanus longicornis</i>  |            | 1    | 1    |
| <i>simplex</i>                   |      | r    |      | <i>Microcalanus pygmaeus</i>    |            | r    | r    |
| <i>Canthocalanus pauper</i>      |      | f    |      | <i>Phaenna spinifera</i>        |            | 2    | 5    |
| <i>Clausocalanus arcuicornis</i> | 4    | f    | c    | <i>Neocalanus gracilis</i>      |            | c    | a    |
| <i>Clytemnestra scutellata</i>   |      |      | 2    | <i>robustior</i>                |            | c    | f    |
| <i>Copilia mirabilis</i>         |      | 1    |      | <i>tenuicornis</i>              |            | 2    | f    |
| <i>Corycaeus catus</i>           |      | r    |      | <i>Oithona similis</i>          | 3          | f    | f    |
| <i>crassiusculus</i>             | f    | r    | a    | <i>spinirostris</i>             |            |      | f    |
| <i>limbatus</i>                  | 3    |      |      | <i>Oncaea conifera</i>          |            | 3    |      |
| <i>pacificus</i>                 |      | 2    |      | <i>media</i>                    | f          |      |      |
| <i>pumilus</i>                   |      | f    |      | <i>minuta</i>                   |            | a    | c    |
| <i>typicus</i>                   |      | r    |      | <i>notopa</i>                   |            |      | 2    |
| <i>Eucalanus attenuatus</i>      |      | 2    | 1    | <i>venusta</i>                  | f          | a    | a    |
| <i>Euchaeta marina</i>           |      |      | 2    | <i>Paracalanus parvus</i>       | f          | c    | c    |
| <i>Farranula carinata</i>        | f    |      |      | <i>pygmaeus</i>                 |            |      | r    |
| <i>gibbula</i>                   | f    |      |      | <i>Pseudocalanus minutus</i>    |            | c    | c    |
| <i>rostrata</i>                  | f    |      |      | <i>Rhincalanus cornutus</i>     |            | 1    |      |
| <i>Heterorhabdus papillager</i>  |      |      | f    | <i>Sapphirina angusta</i>       |            | 2    |      |
| <i>spinifrons</i>                |      |      | 2    | <i>cella</i>                    |            |      |      |
| <i>Labidocera detroncata</i>     | f    |      |      | <i>Scolecithrix bradyi</i>      |            |      | 2    |
| <i>Lubbockia squillimana</i>     |      |      | 1    | <i>Scolecithrix danae</i>       |            |      | 4    |
| <i>Calanus propinquus</i>        | 1    |      |      | <i>Undinula darwini</i>         |            | a    | a    |
| <i>Clausocalanus furcatus</i>    |      |      | 3    | <i>Haloptilus ornatus, juv.</i> |            |      | 1    |
|                                  |      |      |      | <i>Paracalanus aculeatus</i>    |            | 4    |      |
|                                  |      |      |      | <i>Pandarus zygaenae</i>        | on a shark |      |      |

Sta. 110



BETWEEN STATIONS 110 & 111

30° 08' N. 143° 56' E. June 2, 1929

Surface only

| Volume of tow, cm <sup>3</sup> |   | Length of tow, miles             |   |
|--------------------------------|---|----------------------------------|---|
| Acartia danae                  | a | <del>Corycaeus</del> longistylis | 1 |
| Acrocalanus gracilis           | a | Labidocera detruncata            | 1 |
| Corycaeus crassiusculus        | 3 | Pleuramma <del>gracilis</del>    | 2 |

Sta. 110 & 111



STATION 111  
31°00'N. 144°16'E. June 3, 1929  
Bottom depth 6008m.

37 Species

31° 00' N. 144° 16' E. June 3, 1929

Bottom depth 6008m.

| Depth of tow, m.                 | 50   | 100  | Depth of tow, m.                | 50   | 100  |
|----------------------------------|------|------|---------------------------------|------|------|
| Temperature, C.                  | 19.3 | 18.1 | Density, $\sigma_t P$           | 24.8 | 25.5 |
| Salinity, ‰                      | 34.5 | 34.7 | Phosphates, mg/m <sup>3</sup>   | 5    | 13   |
| Volume of tow, cm <sup>3</sup>   | 32   | 32   | Length of tow, miles            | 1.8  | 1.9  |
| Hydrogen ion pH                  | 8.18 | 8.13 |                                 |      |      |
| <i>Acartia danae</i>             | C    | 2    | <i>Heterorhabdus papillager</i> |      | 2    |
| <i>Acrocalanus gibber</i>        | 2    |      | <i>Lucicutia clausi</i>         |      | f    |
| <i>gracilis</i>                  | C    | C    | <i>Mecynocera clausi</i>        | 3    | 5    |
| <i>Calanus minor</i>             | C    |      | <i>Microcalanus pusillus</i>    |      | 1    |
| <i>Candacia curta</i>            | 1    |      | <i>pygmaeus</i>                 | 2    |      |
| <i>simplex</i>                   |      | 1    | <i>Neocalanus gracilis</i>      | 1    | f    |
| <i>Canthocalanus pauper</i>      | f    | 2    | <i>tenuicornis</i>              |      | 1    |
| <i>Clausocalanus arcuicornis</i> | f    | 2    | <i>Oithona similis</i>          | C    | f    |
| <i>Clytemnestra scutellata</i>   |      | 1    | <i>Oncaea media</i>             | f    |      |
| <i>Corycaeus crassiusculus</i>   | C    |      | <i>minuta</i>                   | f    | f    |
| <i>flaccus</i>                   | f    |      | <i>similis</i>                  | 2    |      |
| <i>longistylis</i>               | 2    |      | <i>venusta</i>                  | C    | C    |
| <i>ovalis</i>                    | 2    |      | <i>Paracalanus parvus</i>       | C    | C    |
| <i>pumilus</i>                   |      | r    | <i>pygmaeus</i>                 |      | 3    |
| <i>speciosus</i>                 | 2    |      | <i>Pseudocalanus minutus</i>    | C    | C    |
| <i>typicus</i>                   |      | r    | <i>cella</i>                    |      |      |
| <i>Eucalanus elongatus</i>       | 1    |      | <i>Scolecithrix bradyi</i>      |      | 2    |
| <i>Euchaeta marina</i>           |      | 1    | <i>Calocalanus plumulosus</i>   |      | 1    |
| <i>acuta</i>                     |      | 1    | <i>Undinula darwini</i>         | f    | f    |

51a-111



STATION 112  
 33° 51' N. 141° 15' E. June 5, 1929  
 Bottom depth 3931 m.

85 Species

| Depth of tow, m.               | 0    | 50   | 100  | Depth of tow, m.               | 0    | 50   | 100  |
|--------------------------------|------|------|------|--------------------------------|------|------|------|
| Temperature, C.                | 23.2 | 21.7 | 19.8 | Density, $\sigma_t P$ .        | 23.5 | 24.2 | 25.0 |
| Salinity, ‰                    | 34.6 | 34.6 | 34.7 | Phosphates, mg/m <sup>3</sup>  | 7    | 7    | 8    |
| Volume of tow, cm <sup>3</sup> | 96   | 80   | 80   | Length of tow, miles           | 2.7  | 2.4  | 2.6  |
| Hydrogen ion pH                | 8.22 | 8.22 | 8.20 |                                |      |      |      |
| <i>Acartia danae</i>           |      | c    | f    | <i>Lucicutia clausi</i>        |      | 2    |      |
| <i>Acrocalanus gibber</i>      | a    | a    | c    | <i>flavicornis</i>             |      |      | f    |
| <i>gracilis</i>                | c    |      | f    | <i>Macrosetella gracilis</i>   | 3    | 2    |      |
| <i>longicornis</i>             |      | 2    | 2    | <i>oculata</i>                 | 1    |      |      |
| <i>Aetideus armatus</i>        |      |      | 3    | <i>Mecynocera clausi</i>       |      | a    | a    |
| <i>Calanus minor</i>           | c    | a    | c    | <i>Megacalanus longicornis</i> |      | 3    |      |
| <i>propinquus</i>              | 2    |      |      | <i>Microcalanus pusillus</i>   |      | 2    |      |
| <i>Calocalanus pavo</i>        | 5    | f    |      | <i>pygmaeus</i>                | f    | 5    | 3    |
| <i>styliremis</i>              | 1    | 1    |      | <i>Microsetella rosea</i>      | 1    | p    |      |
| <i>Candacia aethiopica</i>     |      | 1    |      | <i>Miracia efferata</i>        | 1    | 1    |      |
| <i>bipinnata</i>               |      | 2    |      | <i>Monstrilla inserta</i>      |      | 5    |      |

Sta. 112



STATION 112  
33° 51' N. 141° 15' E. June 5, 1929  
Bottom depth 3931 m.

85 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.               | 0    | 50   | 100  |
|----------------------------------|------|------|------|--------------------------------|------|------|------|
| Temperature, C.                  | 23.2 | 21.7 | 19.8 | Density, $\sigma_t P$ .        | 23.5 | 24.2 | 25.0 |
| Salinity, ‰                      | 34.6 | 34.6 | 34.7 | Phosphates, mg/m <sup>3</sup>  | 7    | 7    | 8    |
| Volume of tow, cm <sup>3</sup>   | 96   | 80   | 80   | Length of tow, miles           | 2.7  | 2.4  | 2.6  |
| Hydrogen ion pH                  | 8.22 | 8.22 | 8.20 |                                |      |      |      |
| <i>Acartia danae</i>             |      | c    | f    | <i>Lucicutia clausi</i>        |      | 2    |      |
| <i>Acrocalanus gibber</i>        | a    | a    | c    | <i>flavicornis</i>             |      |      | f    |
| <i>gracilis</i>                  | c    |      | f    | <i>Macrosetella gracilis</i>   | 3    | 2    |      |
| <i>longicornis</i>               |      | 2    | 2    | <i>oculata</i>                 | 1    |      |      |
| <i>Aetideus armatus</i>          |      |      | 3    | <i>Mecynocera clausi</i>       |      | a    | a    |
| <i>Calanus minor</i>             | c    | a    | c    | <i>Megacalanus longicornis</i> |      | 3    |      |
| <i>propinquus</i>                | 2    |      |      | <i>Microcalanus pusillus</i>   |      | 2    |      |
| <i>Calocalanus pavo</i>          | 5    | f    |      | <i>pygmaeus</i>                | f    | 5    | 3    |
| <i>styliremis</i>                | 1    | 1    |      | <i>Microsetella rosea</i>      | 1    | r    |      |
| <i>Candacia aethiopica</i>       |      | 1    |      | <i>Miracia efferata</i>        | 1    | 1    |      |
| <i>bipinnata</i>                 |      | 2    |      | <i>Monstrilla inserta</i>      |      | 5    |      |
| <i>bispinosa</i>                 |      | f    |      | <i>Neocalanus gracilis</i>     | 2    | f    | a    |
| <i>curta</i>                     | 2    | 4    |      | <i>robustior</i>               |      | f    | f    |
| <i>norvegica</i>                 |      | 2    |      | <i>tenuicornis</i>             | 1    | 2    | c    |
| <i>simplex</i>                   |      | 2    |      | <i>Oithona attenuata</i>       |      | f    | 4    |
| <i>truncata</i>                  |      | f    |      | <i>plumifera</i>               |      | f    | c    |
| <i>Canthocalanus pauper</i>      | f    | f    | 4    | <i>similis</i>                 |      | c    |      |
| <i>Centropages calaninus</i>     | 4    |      |      | <i>spinirostris</i>            |      | f    |      |
| <i>Clausocalanus arcuicornis</i> | c    | c    | c    | <i>Oncaea curta</i>            |      | 2    |      |
| <i>furcatus</i>                  |      |      | f    | <i>media</i>                   | f    |      |      |
| <i>Clytemnestra scutellata</i>   |      | 2    |      | <i>minuta</i>                  | c    | c    | c    |
| <i>Copilia denticulata</i>       | 2    |      |      | <i>similis</i>                 |      |      | f    |
| <i>mirabilis</i>                 | 2    |      |      | <i>tenella</i>                 | r    |      |      |
| <i>recta</i>                     |      |      | 3    | <i>venusta</i>                 | c    | c    | c    |
| <i>Corycaeus crassiusculus</i>   | c    | f    | c    | <i>Paracalanus aculeatus</i>   | r    |      |      |
| <i>furcifer</i>                  | 2    |      |      | <i>parvus</i>                  | f    | c    | c    |
| <i>lubbockii</i>                 | 1    |      |      | <i>Pleuromamma gracilis</i>    |      |      | 2    |
| <i>pumilus</i>                   |      | f    | r    | <i>Pontellina plumata</i>      | f    |      |      |
| <i>speciosus</i>                 | f    | 4    | 2    | <i>Pseudocalanus minutus</i>   | c    | c    | c    |
| <i>typicus</i>                   |      | 4    | r    | <i>Rhincalanus cornutus</i>    |      | 4    |      |
| <i>Eucalanus attenuatus</i>      |      | c    | f    | <i>nasutus</i>                 |      | 2    |      |
| <i>crassus</i>                   |      | 4    | 3    | <i>Sapphirina auronitens</i>   | 3    |      | 1    |
| <i>elongatus</i>                 |      | c    | f    | <i>nigromaculata</i>           |      | 1    |      |
| <i>Euchaeta acuta</i>            |      | 3    |      | <i>opalina</i>                 |      | 2    | 2    |
| <i>marina</i>                    | 2    | f    | f    | <i>cella</i>                   |      |      |      |
| <i>Farranula carinata</i>        | c    |      |      | <i>Scolecithrix bradyi</i>     |      | 3    | f    |
| <i>concinna</i>                  |      | 2    |      | <i>Scolecithrix danae</i>      |      | c    | f    |
| <i>gibbula</i>                   | f    |      | f    | <i>Temora discaudata</i>       | f    |      |      |
| <i>rostrata</i>                  | c    |      | f    | <i>Calocalanus plumulosus</i>  | 1    |      | 2    |
| <i>Heterorhabdus papillager</i>  |      | 2    | 2    | <i>Undinula caroli</i>         |      | f    |      |
| <i>Labidocera detruncata</i>     | 5    |      |      | <i>darwinii</i>                | f    | a    | a    |
| <i>Danodes plumata</i>           | 3    |      |      | <i>vulgaris</i>                |      | 2    |      |
|                                  |      |      |      | <i>Sapphirina angusta</i>      |      | 2    |      |
|                                  |      |      |      | <i>Undeuchaeta plumosa</i>     |      |      | 1    |



STATION 113  
 34°44' N. 141°04' E. June 25, 1929  
 Bottom depth 2911m.

93 Species

|                                |      |      |      |                                |      |      |      |
|--------------------------------|------|------|------|--------------------------------|------|------|------|
| Depth of tow, m.               | 0    | 50   | 100  | Depth of tow, m.               | 0    | 50   | 100  |
| Temperature, C.                | 24.1 | 23.7 | 21.5 | Density, $\sigma_t P$ .        | 23.2 | 23.6 | 24.5 |
| Salinity, ‰                    | 34.5 | 34.5 | 34.6 | Phosphates, mg/m <sup>3</sup>  | 5    | 5    | 8    |
| Volume of tow, cm <sup>3</sup> | 32   | 64   | 128  | Length of tow, miles           | 1.7  | 1.6  | 1.7  |
| Hydrogen ion pH                | 8.25 | 8.25 | 8.23 | <i>Pachyptilus abbreviatus</i> |      |      | 1    |
| <i>Acartia danae</i>           |      | 2    | f    | <i>Labidocera detruncata</i>   | c    |      |      |
| <i>Acrocalanus gibber</i>      | c    | r    | f    | <i>Lubbockia aculeata</i>      |      |      | f    |
| <i>gracilis</i>                | a    | c    | c    | <i>squillimana</i>             |      | c    |      |
| <i>longicornis</i>             | f    |      | f    | <i>Lucicutia clausi</i>        |      | a    |      |
| <i>monachus</i>                |      | 3    | f    | <i>flavicornis</i>             |      | c    |      |
| <i>Aetideus armatus</i>        |      | a    |      | <i>Macrosetella gracilis</i>   | 4    | 3    | 2    |
| <i>Calanus minor</i>           | c    | c    | c    | <i>oculata</i>                 | 1    |      |      |
| <i>propinquus</i>              |      |      | 2    | <i>Mecynocera clausi</i>       |      | c    | a    |

Sta. 113.



STATION 113  
34°44' N. 141°04' E. June 25, 1929  
Bottom depth 2911m.

93 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                           | 0    | 50   | 100  |
|----------------------------------|------|------|------|--|------|------|------|
| Temperature, C.                  | 24.1 | 23.7 | 21.5 | Density, $\sigma_t P$                      | 23.2 | 23.6 | 24.5 |
| Salinity, ‰                      | 34.5 | 34.5 | 34.6 | Phosphates, mg/m <sup>3</sup>              | 5    | 5    | 8    |
| Volume of tow, cm <sup>3</sup>   | 32   | 64   | 128  | Length of tow, miles                       | 1.7  | 1.6  | 1.7  |
| Hydrogen ion pH                  | 8.25 | 8.25 | 8.23 | <i>Pachyptilus abbreviatus</i>             |      |      | 1    |
| <i>Acartia danae</i>             |      | 2    | f    | <i>Labidocera detruncata</i>               | c    |      |      |
| <i>Acrocalanus gibber</i>        | c    | r    | f    | <i>Lubbockia aculeata</i>                  |      |      | f    |
| <i>gracilis</i>                  | a    | c    | c    | <i>squillimana</i>                         |      | c    |      |
| <i>longicornis</i>               | f    |      | f    | <i>Lucicutia clausi</i>                    |      | a    |      |
| <i>monachus</i>                  |      | 3    | f    | <i>flavicornis</i>                         |      | c    |      |
| <i>Aetideus armatus</i>          |      | a    |      | <i>Macrosetella gracilis</i>               | 4    | 3    | 2    |
| <i>Calanus minor</i>             | c    | c    | c    | <i>oculata</i>                             | 1    |      |      |
| <i>propinquus</i>                |      |      | 2    | <i>Mecynocera clausi</i>                   |      | c    | a    |
| <i>Calocalanus pavo</i>          |      | 2    | c    | <i>Megacalanus longicornis</i>             |      | 1    | 2    |
| <i>styliremis</i>                |      | 1    |      | <i>Microcalanus pusillus</i>               |      | 2    | 4    |
| <i>Candacia bipinnata</i>        |      |      | 1    | <i>pygmaeus</i>                            |      |      | f    |
| <i>bispinosa</i>                 |      | 4    | 5    | <i>Microsetella norvegica</i>              | 2    |      |      |
| <i>curta</i>                     |      | 2    |      | <i>rosea</i>                               |      | f    | f    |
| <i>norvegica</i>                 |      |      | 2    | <i>Miracia efferata</i>                    | 1    |      |      |
| <i>pachydactyla</i>              |      |      | 1    | <i>Candacia longimana</i>                  |      |      | 2    |
| <i>simplex</i>                   | 2    | f    | f    | <i>Neocalanus gracilis</i>                 |      | c    | f    |
| <i>truncata</i>                  |      | f    | c    | <i>robustior</i>                           |      | f    | f    |
| <i>Canthocalanus pauper</i>      |      | 4    | f    | <i>tenuicornis</i>                         |      | c    | f    |
| <i>Centropages calaninus</i>     | 2    |      | f    | <i>Oithona attenuata</i>                   |      |      | f    |
| <i>Clausocalanus arcuicornis</i> | c    | f    | c    | <i>plumifera</i>                           |      |      | f    |
| <i>Copilia denticulata</i>       |      |      | 4    | <i>similis</i>                             |      | c    |      |
| <i>mirabilis</i>                 |      |      | 2    | <i>spinirostris</i>                        |      | f    | c    |
| <i>recta</i>                     |      |      | 3    | <i>Oncaea media</i>                        | r    |      |      |
| <i>Corycaeus catus</i>           | r    |      |      | <i>minuta</i>                              | c    | c    | a    |
| <i>crassiusculus</i>             | c    | c    | c    | <i>notopa</i>                              |      | 4    |      |
| <i>dubius</i>                    | 3    |      |      | <i>similis</i>                             |      | f    |      |
| <i>lautus</i>                    |      | 4    |      | <i>venusta</i>                             | c    | a    | a    |
| <i>longistylis</i>               |      |      | 2    | <i>Aetideus giesbrechti</i>                |      |      | 3    |
| <i>robustus</i>                  |      | 1    |      | <i>Paracalanus parvus</i>                  |      | f    | c    |
| <i>speciosus</i>                 |      | f    | f    | <i>pygmaeus</i>                            |      | 2    | f    |
| <i>typicus</i>                   |      |      | 4    | <i>Pseudocalanus minutus</i>               | c    | f    | c    |
| <i>Eucalanus attenuatus</i>      |      | f    | c    | <i>Rhincalanus cornutus</i>                |      |      | 2    |
| <i>crassus</i>                   |      |      | 2    | <i>nasutus</i>                             |      | 1    |      |
| <i>elongatus</i>                 |      |      | 4    | <i>Sapphirina auronitens</i>               |      | 1    |      |
| <i>Euchaeta marina</i>           |      | f    | c    | <i>metallina</i>                           |      | r    |      |
| <i>Farranula carinata</i>        | a    |      |      | <i>Scolecithrix<sup>cella</sup> bradyi</i> |      | f    |      |
| <i>curta</i>                     |      |      | r    | <i>Scolecithrix danae</i>                  |      | 2    | c    |
| <i>gibbula</i>                   | f    | f    |      | <i>Calocalanus plumulosus</i>              |      | 2    | 3    |
| <i>rostrata</i>                  | a    | f    | f    | <i>Undinula caroli</i>                     |      |      | f    |
| <i>Haloptilus longicornis</i>    |      | 4    |      | <i>darwinii</i>                            | 2    | f    | c    |
| <i>spiniceps</i>                 |      | 1    |      | <i>vulgaris</i>                            |      |      | f    |
| <i>Heterorhabdus papillager</i>  |      | 2    | f    | <i>Oncaea conifera</i>                     |      | 2    |      |
| <i>Acartia negligens</i>         | 3    |      |      | <i>mediterranea</i>                        |      | 1    |      |
| <i>Anomalocera patersoni</i>     |      |      | 1    | <i>tenella</i>                             |      | 2    |      |
| <i>Euchaeta acuta</i>            |      | 2    |      | <i>Pachos tuberosum</i>                    |      |      | 4    |
| <i>Haloptilus ornatus</i>        |      |      | 1    | <i>Sapphirina angusta</i>                  | 2    |      |      |



STATION 114  
 36°38' N. 143°34' E. June 27, 1929  
 Bottom depth 6630 m.

66 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                | 0    | 50   | 100  |
|----------------------------------|------|------|------|---------------------------------|------|------|------|
| Temperature, C.                  | 19.9 | 16.2 | 13.0 | Density, $\sigma_t$             | 24.2 | 25.6 | 26.4 |
| Salinity, ‰                      | 34.3 | 34.5 | 34.4 | Phosphates, mg/m <sup>3</sup>   | 7    | 57   | 91   |
| Volume of tow, cm <sup>3</sup>   | 32   | 80   | 48   | Length of tow, miles            | 0.8  | 0.8  | 0.8  |
| Hydrogen ion pH                  | 8.15 | 8.08 | 8.00 |                                 |      |      |      |
| <i>Acartia danae</i>             | c    |      |      | <i>Lubbockia aculeata</i>       |      | 2    |      |
| <i>Acrocalanus gibber</i>        |      | 3    | f    | <i>Lucicutia clausi</i>         |      |      | c    |
| <i>gracilis</i>                  | 1    | f    | c    | <i>flavicornis</i>              |      |      | c    |
| <i>Aetideus armatus</i>          |      |      | f    | <i>Megacalanus longicornis</i>  |      | 2    |      |
| <i>Calanus helgolandicus</i>     |      | 2    |      | <i>princeps</i>                 |      | 2    | 2    |
| <i>minor</i>                     |      |      | f    | <i>Microcalanus pygmaeus</i>    |      |      | f    |
| <i>propinquus</i>                |      |      | f    | <i>Microsetella rosea</i>       |      |      | f    |
| <i>Candacia bipinnata</i>        |      | 2    |      | <i>Miracia efferata</i>         |      | 2    |      |
| <i>armata</i>                    |      |      | 2    | <i>Neocalanus gracilis</i>      |      | c    |      |
| <i>varicans</i>                  |      | 1    | 2    | <i>robustior</i>                |      | f    | f    |
| <i>Clausocalanus arcuicornis</i> | 1    | f    | c    | <i>tenuicornis</i>              |      | c    | c    |
| <i>Corycaeus catus</i>           | r    |      |      | <i>Oithona attenuata</i>        |      |      | f    |
| <i>crassiusculus</i>             | f    | c    | c    | <i>plumifera</i>                |      | f    |      |
| <i>furcifer</i>                  |      |      | r    | <i>similis</i>                  |      | c    | c    |
| <i>pumilus</i>                   |      |      | r    | <i>spinirostris</i>             |      | f    |      |
| <i>speciosus</i>                 |      |      | 1    | <i>Oncaea media</i>             |      |      | f    |
| <i>Eucalanus attenuatus</i>      |      | f    | f    | <i>minuta</i>                   |      | c    | c    |
| <i>crassus</i>                   |      | 2    | 4    | <i>venusta</i>                  |      |      | a    |
| <i>elongatus</i>                 |      | 3    | 4    | <i>Paracalanus parvus</i>       | f    | f    | c    |
| <i>Euchaeta acuta</i>            |      | 3    | c    | <i>pygmaeus</i>                 |      | f    |      |
| <i>marina</i>                    |      | 2    | f    | <i>Pleuromamma gracilis</i>     |      |      | 1    |
| <i>Farranula carinata</i>        | 1    |      | 3    | <i>Pseudocalanus minutus</i>    | 2    | c    | c    |
| <i>gibbula</i>                   | 2    |      |      | <i>Rhincalanus nasutus</i>      |      | 2    | 2    |
| <i>rostrata</i>                  | 2    |      |      | <i>Sapphirina nigromaculata</i> |      | 2    |      |

Sta. 114



STATION 114  
36°38' N. 143°34' E. June 27, 1929  
Bottom depth 6630m.

66 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                  | 0    | 50   | 100  |
|----------------------------------|------|------|------|-----------------------------------|------|------|------|
| Temperature, C.                  | 19.9 | 16.2 | 13.0 | Density, $\sigma_t$               | 24.2 | 25.6 | 26.4 |
| Salinity, ‰                      | 34.3 | 34.5 | 34.4 | Phosphates, mg/m <sup>3</sup>     | 7    | 57   | 91   |
| Volume of tow, cm <sup>3</sup>   | 32   | 80   | 48   | Length of tow, miles              | 0.8  | 0.8  | 0.8  |
| Hydrogen ion pH                  | 8.15 | 8.08 | 8.00 |                                   |      |      |      |
| <i>Acartia danae</i>             | c    |      |      | <i>Lubbockia aculeata</i>         |      | 2    |      |
| <i>Acrocalanus gibber</i>        |      | 3    | f    | <i>Lucicutia clausi</i>           |      |      | c    |
| <i>gracilis</i>                  | 1    | f    | c    | <i>flavicornis</i>                |      |      | c    |
| <i>Aetideus armatus</i>          |      |      | f    | <i>Megacalanus longicornis</i>    |      | 2    |      |
| <i>Calanus helgolandicus</i>     |      | 2    |      | <i>princeps</i>                   |      | 2    | 2    |
| <i>minor</i>                     |      |      | f    | <i>Microcalanus pygmaeus</i>      |      |      | f    |
| <i>propinquus</i>                |      |      | f    | <i>Microsetella rosea</i>         |      |      | f    |
| <i>Candacia bipinnata</i>        |      | 2    |      | <i>Miracia efferata</i>           |      | 2    |      |
| <i>armata</i>                    |      |      | 2    | <i>Neocalanus gracilis</i>        |      | c    |      |
| <i>varicans</i>                  |      | 1    | 2    | <i>robustior</i>                  |      | f    | f    |
| <i>Clausocalanus arcuicornis</i> | 1    | f    | c    | <i>tenuicornis</i>                |      | c    | c    |
| <i>Corycaeus catus</i>           | p    |      |      | <i>Oithona attenuata</i>          |      |      | f    |
| <i>crassiusculus</i>             | f    | c    | c    | <i>plumifera</i>                  |      | f    |      |
| <i>furcifer</i>                  |      |      | p    | <i>similis</i>                    |      | c    | c    |
| <i>pumilus</i>                   |      |      | p    | <i>spinirostris</i>               |      | f    |      |
| <i>speciosus</i>                 |      |      | 1    | <i>Oncaea media</i>               |      |      | f    |
| <i>Eucalanus attenuatus</i>      |      | f    | f    | <i>minuta</i>                     |      | c    | c    |
| <i>crassus</i>                   |      | 2    | 4    | <i>venusta</i>                    |      |      | a    |
| <i>elongatus</i>                 |      | 3    | 4    | <i>Paracalanus parvus</i>         | f    | f    | c    |
| <i>Euchaeta acuta</i>            |      | 3    | c    | <i>pygmaeus</i>                   |      | f    |      |
| <i>marina</i>                    |      | 2    | f    | <i>Pleuromamma gracilis</i>       |      |      | 1    |
| <i>Farranula carinata</i>        | 1    |      | 3    | <i>Pseudocalanus minutus</i>      | 2    | c    | c    |
| <i>gibbula</i>                   | 2    |      |      | <i>Rhincalanus nasutus</i>        |      | 2    | 2    |
| <i>rostrata</i>                  | 2    |      |      | <i>Sapphirina nigromaculata</i>   |      | 2    |      |
| <i>Haloptilus acutifrons</i>     |      |      | 1    | <i>cella</i>                      |      |      |      |
| <i>Heterorhabdus papillager</i>  |      |      | c    | <i>Scolecithrix bradyi</i>        |      | 4    | 4    |
| <i>spinifrons</i>                |      |      | 1    | <i>Scolecithrix danae</i>         |      | f    |      |
| <i>Labidocera detruncata</i>     | 3    |      |      | <i>Temora discaudata</i>          |      | 1    |      |
| <i>Candacia simplex</i>          |      |      | 4    | <i>Undinula darwini</i>           |      | f    | f    |
| <i>Euchirella curticauda</i>     | 2    | 2    |      | <i>Microcalanus pusillus</i>      |      |      | 2    |
| <i>intermedia</i>                |      | 1    |      | <i>Oncaea mediterranea</i>        |      |      | 3    |
| <i>Oncaea conifera</i>           |      |      | 3    | <i>tenella</i>                    |      |      | 4    |
| <i>curvata</i>                   |      |      | 1    | <i>Sapphirina stellata</i>        | 2    |      |      |
|                                  |      |      |      | <i>Scolecithricella marginata</i> |      | 3    |      |



STATION 115  
 37°40'N. 145°26'E. June 29, 1929  
 Bottom depth 5396m.

36 Species

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                                   | 0    | 50   | 100  |
|----------------------------------|------|------|------|--|------|------|------|
| Temperature, C.                  | 20.5 | 17.5 | 15.6 | Density, $\sigma_t$                                | 24.3 | 25.3 | 26.0 |
| Salinity, ‰                      | 34.5 | 34.6 | 34.6 | Phosphates, mg/m <sup>3</sup>                      | 4    | 17   | 27   |
| Volume of tow, cm <sup>3</sup>   | 112  | 128  | 128  | Length of tow, miles                               | 0.7  | 0.7  | 0.7  |
| Hydrogen ion pH                  | 8.19 | 8.12 | 8.08 |  |      |      |      |
| <i>Acartia danae</i>             | 1    |      |      | <i>Neocalanus gracilis</i>                         |      | f    |      |
| <i>Acrocalanus gracilis</i>      | f    | f    | f    | <i>tenuicornis</i>                                 | 1    |      | f    |
| <i>Aetideus armatus</i>          |      | 2    | f    | <i>Oithona similis</i>                             | 2    | 2    | f    |
| <i>Candacia simplex</i>          |      |      | 4    | <i>spinirostris</i>                                |      |      | c    |
| <i>tenuimana</i>                 |      |      | 1    | <i>Oncaea media</i>                                |      |      | f    |
| <i>Clausocalanus arcuicornis</i> |      | f    | c    | <i>minuta</i>                                      | 2    | f    | f    |
| <i>Corycaeus crassiusculus</i>   |      | c    | 2    | <i>venusta</i>                                     | 1    | f    | c    |
| <i>pumilus</i>                   |      | f    |      | <i>Paracalanus parvus</i>                          | a    | c    | c    |
| <i>Eucalanus crassus</i>         |      | 1    | 2    | <i>pygmaeus</i>                                    |      | 2    |      |
| <i>Euchaeta acuta</i>            |      | 4    | f    | <i>Pseudocalanus minutus</i>                       | f    | c    | c    |
| <i>Farranula rostrata</i>        | 2    |      |      | <i>Sapphirina auronitens</i>                       |      | 1    | 2    |
| <i>Heterorhabdus papillager</i>  |      |      | f    | <i>Scolecithrix</i> <sup>cella</sup> <i>bradyi</i> |      | 1    | 2    |
| <i>Labidocera detroncata</i>     | f    |      |      | <i>Scolecithrix danae</i>                          |      | 2    | f    |
| <i>Lucicutia flavicornis</i>     |      |      | f    | <i>Temora discaudata</i>                           |      | 1    | 2    |
| <i>Microcalanus pygmaeus</i>     |      | 2    | f    | <i>stylifera</i>                                   | 5    |      |      |
| <i>Candacia armata</i>           |      |      | 2    | <i>Lubbockia aculeata</i>                          | 1    |      |      |
| <i>Chiridius poppei</i> , juv ♂  |      | 1    |      | <i>Oncaea mediterranea</i>                         |      | 3    |      |
| <i>Haloplilus spiniceps</i>      |      | 1    |      | <i>Sapphirina opalina</i>                          |      |      | 2    |

Sta. 115



BETWEEN STATIONS 115 & 116

38° 22' N. 147° 20' E. June 30, 1929

Surface only

| Volume of tow, cm <sup>3</sup> | 32 | Length of tow, miles  | 0.7 |
|--------------------------------|----|-----------------------|-----|
| Acartia danae                  | C  | Paracalanus parvus    | C   |
| Corycaeus sp. (mutilated)      | 1  | Pseudocalanus minutus | C   |
| Oithona similis                | 2  |                       |     |

Sta - 115 & 116



STATION 116  
38°41'N. 147°41'E. July 1, 1929  
Bottom depth 5545m.

34 Species

|                                  |      |      |      |                               |      |      |      |
|----------------------------------|------|------|------|-------------------------------|------|------|------|
| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.              | 0    | 50   | 100  |
| Temperature, C.                  | 16.0 | 10.6 | 6.7  | Density, $\sigma_t$           | 24.9 | 26.1 | 27.0 |
| Salinity, ‰                      | 34.0 | 33.7 | 33.8 | Phosphates, mg/m <sup>3</sup> | 4    | 24   | 86   |
| Volume of tow, cm <sup>3</sup>   | 64   | 80   | 64   | Length of tow, miles          | 0.6  | 0.5  | 0.6  |
| Hydrogen ion pH                  | 8.17 | 8.11 | 7.89 |                               |      |      |      |
| <i>Acartia negligens</i>         | a    | c    |      | <i>Microsetella rosea</i>     |      | f    |      |
| <i>Calanus propinquus</i>        |      | f    | f    | <i>Neocalanus gracilis</i>    |      | f    |      |
| <i>Candacia armata</i>           |      | 2    |      | <i>tenuicornis</i>            |      | f    |      |
| <i>Clausocalanus arcuicornis</i> |      | a    | a    | <i>Oithona setigera</i>       |      | 5    |      |
| <i>Clytemnestra rostrata</i>     |      | 1    |      | <i>similis</i>                |      | c    | f    |
| <i>Corycaeus crassiusculus</i>   |      | f    |      | <i>spinirostris</i>           |      | c    | f    |
| <i>Eucalanus attenuatus</i>      |      | f    | f    | <i>Oncaea minuta</i>          |      |      | f    |
| <i>elongatus</i>                 |      | 4    | c    | <i>venusta</i>                |      | f    | f    |
| <i>Euchaeta acuta</i>            |      |      | 2    | <i>Paracalanus parvus</i>     | a    | c    | c    |
| <i>Gaidius tenuispinus</i>       |      |      | 1    | <i>pygmaeus</i>               | f    |      |      |
| <i>Heterorhabdus papillager</i>  |      |      | 1    | <i>Pseudocalanus minutus</i>  |      | c    | c    |
| <i>Lucicutia flavicornis</i>     |      | 5    | 4    | <i>Calocalanus plumulosus</i> |      | f    |      |
| <i>Megacalanus princeps</i>      |      |      | 1    | <i>Acrocalanus gibber</i>     |      | 2    |      |
| <i>Microcalanus pygmaeus</i>     |      | f    |      | <i>gracilis</i>               |      | f    |      |
| <i>Canthocalanus pauper</i>      | 2    |      |      | <i>Haloptilus angusticeps</i> |      | 1    |      |
| <i>Chiridius poppei</i> , juv. ♂ |      | 1    |      | <i>Metridia lucens</i>        |      |      | r    |
| <i>Candacia simplex</i>          |      |      | 3    | <i>Oncaea mediterranea</i>    |      |      | 3    |

Sta. 116



STATION 117  
40° 20' N. 150° 58' E. July 3, 1929  
Bottom depth 5296 m.

|                                  |      |      |      |                                  |      |      |      |
|----------------------------------|------|------|------|----------------------------------|------|------|------|
| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                 | 0    | 50   | 100  |
| Temperature, C.                  | 15.9 | 12.5 | 8.8  | Density, $\sigma_t$ P.           | 25.2 | 26.1 | 26.9 |
| Salinity, ‰                      | 34.3 | 34.2 | 34.0 | Phosphates, mg/m <sup>3</sup>    | 3    | 51   | 84   |
| Volume of tow, cm <sup>3</sup>   | 384  | 128  | 96   | Length of tow, miles             | 0.9  | 0.8  | 0.9  |
| Hydrogen ion pH                  | 8.17 | 8.06 | 7.98 |                                  |      |      |      |
| <i>Acartia negligens</i>         | f    |      | f    | <i>Heterorhabdus papillager</i>  |      |      | 2    |
| <i>Acrocalanus gracilis</i>      |      | f    | c    | <i>Lucicutia clausi</i>          |      |      | 1    |
| <i>Calanus minor</i>             |      | f    |      | <i>flavicornis</i>               |      | 1    |      |
| <i>propinquus</i>                |      |      | f    | <i>Microsetella rosea</i>        |      |      | f    |
| <i>Calocalanus pavo</i>          |      | 2    |      | <i>Neocalanus tenuicornis</i>    |      |      | 1    |
| <i>Candacia varicans</i>         |      |      | 1    | <i>Oithona similis</i>           | f    | c    | f    |
| <i>Canthocalanus pauper</i>      |      | 2    |      | <i>spirostris</i>                |      |      | f    |
| <i>Clausocalanus arcuicornis</i> |      | a    | a    | <i>Oncaea minuta</i>             |      | f    | f    |
| <i>Corycaeus crassiusculus</i>   |      | f    | f    | <i>venusta</i>                   |      | f    |      |
| <i>pumilus</i>                   |      | r    |      | <i>Paracalanus parvus</i>        | f    | c    | a    |
| <i>typicus</i>                   |      |      | 3    | <i>pygmaeus</i>                  |      |      | 4    |
| <i>Eucalanus attenuatus</i>      |      | 2    | f    | <i>Pseudocalanus minutus</i>     |      | c    | a    |
| <i>elongatus</i>                 |      |      | 2    | <i>Sapphirina auronitens</i>     |      |      | 1    |
| <i>Farranula gibbula</i>         | r    |      |      | <i>Calocalanus plumulosus</i>    |      |      | 2    |
| <i>rostrata</i>                  | f    |      |      | <i>Sapphirina stellata</i>       | 2    |      |      |
| <i>Eucalanus subtenuis</i>       |      | 2    |      | <i>Scolecithricella porrecta</i> |      | f    |      |
| <i>Metridia lucens</i>           |      |      | r    |                                  |      |      |      |

Sta. 117



STATION 118  
42° 29' N. 155° 24' E. July 5, 1929  
Bottom depth 5404 m.

|                                  |      |      |      |                              |      |      |      |
|----------------------------------|------|------|------|------------------------------|------|------|------|
| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.             | 0    | 50   | 100  |
| Temperature, C.                  | 10.1 | 8.1  | 6.1  | Density $\sigma_t$           | 25.8 | 26.5 | 27.0 |
| Salinity ‰                       | 33.8 | 33.7 | 33.7 | Phosphates mg/m <sup>3</sup> | 90.  | 92.  | 115. |
| Volume of tow, CM <sup>3</sup>   | 96   | 192  | 140  | Length of tow, miles         | 1.4  | 1.3  | 1.4  |
| Hydrogen ion pH                  | 8.21 | 8.21 | 7.94 |                              |      |      |      |
| <i>Acrocalanus gracilis</i>      |      | f    | f    | <i>Lucicutia clausi</i>      |      |      | f    |
| <i>Bathycalanus rigidus</i>      |      | 1    | 5    | <i>flavicornis</i>           |      |      | c    |
| <i>Calanus finmarchicus</i>      | 3    |      | 2    | <i>Macrosetella gracilis</i> |      |      | 3    |
| <i>hyperboreus</i>               |      | a    | a    | <i>Microsetella rosea</i>    |      |      | f    |
| <i>Calocalanus pavo</i>          |      |      | 1    | <i>Oithona attenuata</i>     |      |      | 4    |
| <i>Clausocalanus arcuicornis</i> |      | f    |      | <i>setigera</i>              |      | 4    | 5    |
| <i>Clytemnestra rostrata</i>     |      |      | 1    | <i>similis</i>               |      | f    | c    |
| <i>Eucalanus attenuatus</i>      |      | f    | 2    | <i>spinirostris</i>          |      | 2    | f    |
| <i>crassus</i>                   |      | 1    |      | <i>Oncaea minuta</i>         |      | f    | f    |
| <i>elongatus</i>                 |      | a    | c    | <i>Paracalanus parvus</i>    |      | f    | f    |
| <i>Euchirella brevis</i>         |      |      | 3    | <i>Pseudocalanus minutus</i> |      | f    |      |
| <i>Metridia longa</i>            |      |      | 3    | <i>Metridia lucens</i>       |      |      | 5    |
|                                  |      |      |      | 24 Species                   |      |      |      |

Sta. 118-



STATION 119  
45°24'N. 159°36'E. July 7, 1929.  
Bottom depth 5198 m.

|                                  |      |      |      |                                  |      |      |      |
|----------------------------------|------|------|------|----------------------------------|------|------|------|
| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                 | 0    | 50   | 100  |
| Temperature, C.                  | 6.9  | 3.0  | 1.6  | Density $\sigma_t P$ .           | 25.8 | 26.6 | 27.0 |
| Salinity ‰                       | 32.9 | 33.  | 33.2 | Phosphates mg/m <sup>3</sup>     | 142. | 165. | 193. |
| Volume of tow, CM. <sup>3</sup>  | 31   | 31   | 62   | Length of tow, miles             | 1.3  | 1.3  | 1.4  |
| Hydrogen ion pH                  | 7.96 | 7.92 | 7.85 |                                  |      |      |      |
| <i>Acrocalanus gracilis</i>      |      |      | r    | <i>Neocalanus gracilis</i>       |      | f    | f    |
| <i>Calanus cristatus</i>         |      |      | f    | <i>robustior</i>                 |      | f    | 1    |
| <i>hyperboreus</i>               |      | c    | c    | <i>Oithona attenuata</i>         |      |      | c    |
| <i>Clausocalanus arcuicornis</i> |      |      | f    | <i>similis</i>                   | 3    | c    | a    |
| <i>Eucalanus elongatus</i>       |      | f    | f    | <i>Paracalanus parvus</i>        |      |      | f    |
| <i>Macrosetella gracilis</i>     |      |      | f    | <i>Pseudocalanus minutus</i>     | a    | f    | f    |
| <i>Microsetella rosea</i>        |      | f    | c    | <i>Metridia lucens</i>           |      |      | r    |
| <i>Eucalanus subtennis</i>       |      | 3    |      | <i>Scolecithricella porrecta</i> |      | 2    |      |
|                                  |      |      |      | 16 species                       |      |      |      |

Sta. 119.



# STATION 120

47° 02' N. 166° 20' E. July 9, 1929

19 Species

Bottom depth 5874 m.

|                                  |      |      |      |                                  |      |      |      |
|----------------------------------|------|------|------|----------------------------------|------|------|------|
| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                 | 0    | 50   | 100  |
| Temperature, C.                  | 7.1  | 2.1  | 2.0  | Density $\sigma_t P$ .           | 25.8 | 26.5 | 27.0 |
| Salinity ‰                       | 32.9 | 33.0 | 33.2 | Phosphates mg/m <sup>3</sup>     | 137. | 177. | 197. |
| Volume of tow, CM <sup>3</sup>   | 310  | 186  | 159  | Length of tow, miles             | 1.2  | 1.4  | 1.6  |
| Hydrogen ion pH                  | 7.98 | 7.90 | 7.84 |                                  |      |      |      |
| <i>Acrocalanus gracilis</i>      |      |      | f    | <i>Microsetella rosea</i>        |      | f    | f    |
| <i>Calanus cristatus</i>         |      | f    | c    | <i>Neocalanus gracilis</i>       | d    | f    | r    |
| <i>finmarchicus</i>              | d    | 2    |      | <i>Oithona similis</i>           | a    | a    | c    |
| <i>hyperboreus</i>               |      | c    | a    | <i>Oncaea minuta</i>             | a    | f    |      |
| <i>Clausocalanus arcuicornis</i> |      |      | c    | <i>Paracalanus parvus</i>        | d    |      | c    |
| <i>Eucalanus attenuatus</i>      |      | f    |      | <i>Pseudocalanus minutus</i>     | 2    | c    | c    |
| <i>elongatus</i>                 |      | a    | c    | <i>Scolecithricella perfecta</i> |      |      | c    |
| <i>Macrosetella gracilis</i>     |      | 2    |      | <i>Metridia lucens</i>           |      |      | 5    |
| <i>Gaidius tenuispinus</i>       |      | 3    |      | <i>Scolecithricella minor</i>    |      | 2    |      |
| <i>Metridia longa</i>            |      |      | 4    |                                  |      |      |      |

d, development stages.

Sta. 120



STATION 121  
 46° 05' N. 171° 32' E. July 11, 1929  
 Bottom depth 5684 m.

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                 | 0    | 50   | 100  |
|----------------------------------|------|------|------|----------------------------------|------|------|------|
| Temperature, C.                  | 7.4  | 3.5  | 2.0  | Density, $\sigma_t P$            | 25.7 | 26.5 | 27.0 |
| Salinity, o/oo                   | 32.9 | 33.0 | 33.1 | Phosphates, mg/m <sup>3</sup>    | 141  | 159  | 184  |
| Volume of tow, CM. <sup>3</sup>  | 288  | 368  | 192  | Length of tow, miles             | 1.3  | 1.3  | 1.4  |
| Hydrogen ion pH                  | 7.98 | 7.92 | 7.86 |                                  |      |      |      |
| <i>Acrocalanus gracilis</i>      |      | f    |      | <i>Microsetella rosea</i>        |      | f    | f    |
| <i>Calanus finmarchicus</i>      |      |      | 2    | <i>Neocalanus gracilis</i>       | d    |      | 2    |
| <i>hyperboreus</i>               |      | a    | a    | <i>robustior</i>                 |      | 3    |      |
| <i>Clausocalanus arcuicornis</i> |      | f    | f    | <i>Oithona similis</i>           | a    | a    | a    |
| <i>Eucalanus elongatus</i>       |      | a    | c    | <i>Oncaea minuta</i>             |      |      | 4    |
| <i>Euchaeta acuta</i>            |      |      | 5    | <i>Paracalanus parvus</i>        |      |      | f    |
| <i>Gaidius tenuispinus</i>       |      |      | 2    | <i>Pseudocalanus minutus</i>     |      | f    | f    |
| <i>Metridia longa</i>            |      | 3    | 3    | <i>Scolecithricella porrecta</i> |      | f    | a    |
| <i>lucens</i>                    |      | 5    | c    | <i>bradyi</i>                    |      |      | 1    |
|                                  |      |      |      | 18 species                       |      |      |      |

Sta. 121



STATION 122  
46°16' N. 174°03' E. July 13, 1929  
Bottom depth 6077 m.

|                                  |      |      |      |                                  |      |      |      |
|----------------------------------|------|------|------|----------------------------------|------|------|------|
| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                 | 0    | 50   | 100  |
| Temperature, C.                  | 8.2  | 3.6  | 2.4  | Density $\sigma_t P$             | 25.5 | 26.5 | 26.9 |
| Salinity ‰                       | 32.8 | 33.0 | 33.1 | Phosphates mg/m <sup>3</sup>     | 130  | 143  | 162  |
| Volume of tow, CM. <sup>3</sup>  | 160  | 256  | 256  | Length of tow, miles             | 1.3  | 2    | 2.1  |
| Hydrogen ion pH                  | 7.98 | 7.94 | 7.90 |                                  |      |      |      |
| <i>Acrocalanus gracilis</i>      |      |      | f    | <i>Microsetella rosea</i>        | f    |      | c    |
| <i>Calanus cristatus</i>         |      |      | 5    | <i>Neocalanus gracilis</i>       |      |      | 4    |
| <i>finmarchicus</i>              | a    | 2    | 4    | <i>robustior</i>                 |      | 2    | 2    |
| <i>hyperboreus</i>               |      | a    | a    | <i>Oithona similis</i>           | a    | a    | a    |
| <i>Clausocalanus arcuicornis</i> |      | c    |      | <i>Oncaea minuta</i>             |      | 2    | f    |
| <i>Eucalanus attenuatus</i>      |      | f    | f    | <i>Paracalanus parvus</i>        | f    |      | f    |
| <i>elongatus</i>                 |      | f    | c    | <i>Pseudocalanus minutus</i>     | f    |      | c    |
| <i>Euchaeta acuta</i>            |      |      | 4    | <i>Paracalanus pygmaeus</i>      |      |      | f    |
| <i>Gaidius tenuispinus</i>       |      |      | 3    | <i>Scolecithricella porrecta</i> |      |      | c    |
| <i>Metridia longa</i>            |      | c    | c    | <i>bradyi</i>                    |      | f    |      |
| <i>lucens</i>                    |      | c    | c    |                                  |      |      |      |
|                                  |      |      |      | 21 species                       |      |      |      |

Sta. 122



STATION 123  
50°27'N, 172°51'W. July 15, 1929  
Bottom depth 5464m.

|                                  |      |      |      |                                  |      |      |      |
|----------------------------------|------|------|------|----------------------------------|------|------|------|
| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                 | 0    | 50   | 100  |
| Temperature, C.                  | 8.1  | 4.4  | 3.0  | Density $\sigma_t P$             | 25.5 | 26.3 | 27.1 |
| Salinity, ‰                      | 32.7 | 32.8 | 33.3 | Phosphates, mg/m <sup>3</sup>    | 113  | 150  | 209  |
| Volume of tow, CM <sup>3</sup>   | 320  | ?    | ?    | Length of tow, miles             | 0.8  | 1    | 1    |
| Hydrogen ion pH                  | 8.03 | 7.94 | 7.79 |                                  |      |      |      |
| <i>Acartia danae</i>             | a    |      |      | <i>Metridia lucens</i>           |      | c    | c    |
| <i>negligens</i>                 | a    | f    |      | <i>Microsetella rosea</i>        |      |      | f    |
| <i>Acrocalanus gracilis</i>      |      |      | 2    | <i>Neocalanus robustior</i>      |      | 4    | 2    |
| <i>Calanus finmarchicus</i>      | d    |      | 2    | <i>Oithona similis</i>           |      | a    | a    |
| <i>hyperboreus</i>               | d    | f    | c    | <i>Oncaea minuta</i>             |      | 2    | f    |
| <i>Clausocalanus arcuicornis</i> |      |      | f    | <i>Paracalanus parvus</i>        |      | f    |      |
| <i>Eucalanus elongatus</i>       |      | 3    | c    | <i>Pseudocalanus minutus</i>     | a    | f    | f    |
| <i>Megacalanus princeps</i>      |      |      | 1    | <i>Scolecithricella porrecta</i> |      |      | f    |
|                                  |      |      |      | 16 Species                       |      |      |      |

Sta. 123



STATION 124  
52° 19' N. 162° 02' W. July 17, 1929  
Bottom depth 4780 m.

| Depth of tow, m.                 | 0    | 50   | 100  | Depth of tow, m.                 | 0    | 50   | 100  |
|----------------------------------|------|------|------|----------------------------------|------|------|------|
| Temperature, C.                  | 9.3  | 5.3  | 4.0  | Density, $\sigma_t$              | 25.2 | 26.1 | 27.2 |
| Salinity, o/oo                   | 32.6 | 32.7 | 33.6 | Phosphates, mg/m <sup>3</sup>    | 103  | 110  | 228  |
| Volume of tow, CM <sup>3</sup>   | 31   | 256  | 93   | Length of tow, miles             | 1.2  | 1.4  | 1.5  |
| Hydrogen ion pH                  | 8.04 | 8.02 | 7.64 |                                  |      |      |      |
| <i>Acartia danae</i>             | f    |      |      | <i>Megacalanus longicornis</i>   | 1    |      |      |
| <i>negligens</i>                 | f    |      | 2    | <i>Metridia lucens</i>           |      | a    | a    |
| <i>Acrocalanus gracilis</i>      |      | 2    | r    | <i>Neocalanus gracilis</i>       |      | f    | 2    |
| <i>Calanus cristatus</i>         |      | f    | f    | <i>Oithona similis</i>           | a    | a    |      |
| <i>finmarchicus</i>              | 4    | 4    |      | <i>Oncaea minuta</i>             |      | f    | 4    |
| <i>hyperboreus</i>               | f    | c    | c    | <i>Paracalanus parvus</i>        | f    | f    | f    |
| <i>Clausocalanus arcuicornis</i> |      |      | f    | <i>Pseudocalanus minutus</i>     | c    |      | f    |
| <i>Eucalanus attenuatus</i>      |      | a    | f    | <i>Scolecithricella porrecta</i> |      |      | 2    |
| <i>elongatus</i>                 | f    |      | 2    |                                  |      |      |      |
|                                  |      |      |      | 17 Species                       |      |      |      |

Sta. 124



STATION 125  
 51°58'N. 150°39'W. July 19, 1929  
 Bottom depth 4536 m.

J. E. Shumagin Jr.

|                                |      |      |      |                              |      |      |      |
|--------------------------------|------|------|------|------------------------------|------|------|------|
| Depth of tow, m.               | 0    | 50   | 100  | Depth of tow, m.             | 0    | 50   | 100  |
| Temperature, C.                | 10.5 | 5.5  | 4.2  | Density, $\sigma_t$          | 25.1 | 26.1 | 26.6 |
| Salinity, ‰                    | 32.7 | 32.8 | 32.9 | Phosphates mg/m <sup>3</sup> | 125  | 138  | 160  |
| Volume of tow, CM <sup>3</sup> | 31   | 64   | 93   | Length of tow, miles         | 1.4  | 1.0  | 1.1  |
| Hydrogen ion pH                | 8.03 | 7.98 | 7.89 |                              |      |      |      |
| Acrocalanus gracilis           |      | f    |      | Eucalanus elongatus          |      | c    | a    |
| Calanus finmarchicus           | f    |      | 4    | Metridia lucens              |      | 2    | f    |
| hyperboreus                    | d    | c    | a    | Neocalanus gracilis          |      | f    |      |
| Clausocalanus arcuicornis      |      |      | 2    | Oithona similis              | a    | a    | a    |
| Eucalanus attenuatus           |      | f    |      | Pseudocalanus minutus        |      | f    | f    |
|                                |      |      |      | 10 species                   |      |      |      |

Sta. 125



## STATION 126

S.W. Vancouver Is.

48° 05' N. 142° 56' W. July 21, 1929.

Bottom depth 4382 m.

|                                |      |      |      |                                   |      |      |      |
|--------------------------------|------|------|------|-----------------------------------|------|------|------|
| Depth of tow, m.               | 0    | 50   | 100  | Depth of tow, m.                  | 0    | 50   | 100  |
| Temperature, C.                | 11.2 | 7.7  | 6.4  | Density, $\sigma_t P$             | 24.9 | 25.7 | 26.1 |
| Salinity, ‰                    | 32.6 | 32.6 | 32.7 | Phosphates mg/m <sup>3</sup>      | 76   | 91   | 100  |
| Volume of tow, cm <sup>3</sup> | 62   | ?    | ?    | Length of tow, miles              | 1.9  | ?    | ?    |
| Hydrogen ion pH                | 8.09 | 8.04 | 8.01 |                                   |      |      |      |
| <i>Aetideus armatus</i>        |      |      | 1    | <i>Microsetella rosea</i>         |      |      | f    |
| <i>Calanus cristatus</i>       |      | 1    |      | <i>Oithona similis</i>            |      |      | c    |
| <i>finmarchicus</i>            | f    |      | f    | <i>spinirostris</i>               |      |      | 2    |
| <i>hyperboreus</i>             | c    | 3    | c    | <i>Oncaea minuta</i>              |      |      | f    |
| <i>Eucalanus elongatus</i>     |      |      | 3    | <i>Pseudocalanus minutus</i>      | 1    |      | 4    |
| <i>Lucicutia flavicornis</i>   |      |      | 1    | <i>Scolecithricella abyssalis</i> |      |      | f    |
| <i>Macrosetella gracilis</i>   |      |      | 2    |                                   |      |      |      |
|                                |      |      |      | 13 species                        |      |      |      |

Sta. 126.



STATION 127  
44°16'N. 137°37'W. July 23, 1929.  
Bottom depth 4026 m.

West of Oregon

|                                |      |      |      |                               |      |      |      |
|--------------------------------|------|------|------|-------------------------------|------|------|------|
| Depth of tow, m.               | 0    | 50   | 100  | Depth of tow, m.              | 0    | 50   | 100  |
| Temperature, C.                | 13.3 | 10.5 | 8.2  | Density $\sigma_t$            | 24.5 | 25.3 | 25.9 |
| Salinity, ‰                    | 32.6 | 32.7 | 32.7 | Phosphates, mg/m <sup>3</sup> | 43   | 56   | 72   |
| Volume of tow, cm <sup>3</sup> | 64   | 128  | 128  | Length of tow, miles          | 1.9  | 2.1  | 2.2  |
| Hydrogen ion pH                | 8.12 | 8.09 | 8.00 |                               |      |      |      |
| Acrocalanus gracilis           | c    |      |      | Neocalanus gracilis           |      | f    | a    |
| Calanus cristatus              |      | f    |      | tenuicornis                   |      |      | a    |
| finmarchicus                   | a    | a    | c    | Oithona similis               | f    | f    | a    |
| hyperboreus                    |      | a    | c    | spinirostris                  |      |      | c    |
| Clausocalanus arcuicornis      | c    |      |      | Oithonina nana                |      |      | f    |
| Eucalanus attenuatus           | f    | f    | c    | Paracalanus parvus            | 4    |      |      |
| crassus                        |      |      | 1    | Pseudocalanus minutus         |      |      | r    |
|                                |      |      |      | 14 species                    |      |      |      |

Sta. 127-



STATION 128  
 40°37'N. 132°23'W. July 25, 1929  
 Bottom depth 3806 m.

71.4 W. San Francisco

|                                  |      |      |                               |      |      |
|----------------------------------|------|------|-------------------------------|------|------|
| Depth of tow, m.                 | 0    | 50   | Depth of tow, m.              | 0    | 50   |
| Temperature, C.                  | 16.4 | 11.7 | Density, $\sigma_t$           | 24.1 | 25.4 |
| Salinity, ‰                      | 32.9 | 33.0 | Phosphates, mg/m <sup>3</sup> | 29   | 29   |
| Volume of tow, cm <sup>3</sup>   | 48   | 96   | Length of tow, miles          | 1    | 1    |
| Hydrogen ion pH                  | 8.12 | 8.11 |                               |      |      |
| <i>Acrocalanus gracilis</i>      | c    | f    | <i>Oithona similis</i>        | f    | a    |
| <i>Clausocalanus arcuicornis</i> | a    |      | <i>Paracalanus parvus</i>     | c    | 2    |
| <i>Clytemnestra rostrata</i>     |      | 2    | <i>Pseudocalanus minutus</i>  | a    |      |
| <i>Neocalanus gracilis</i>       |      | f    |                               |      |      |

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